# AMERICAN VETERINARY REVIEW.

OCTOBER, 1909.

## EDITORIAL.

### LEONARD PEARSON.

In the same number in which we record the recent brilliant meeting of the A. V. M. A., we regret to have to report the death of one of its most distinguished members. One whose genial presence and words of wisdom were missed at the Chicago meeting by his fellow-members; but little did they think, that in less than a fortnight from the time of its closing, he would be no more, and that they would never see him again. This distinguished veterinarian died in the prime of his life and in the midst of his accomplishments, a victim of his ambitions. Possessed of a naturally keen intellect, and a thirst for knowledge gratified by years of devotion to scientific training, both in this country and abroad, he was equipped for his life-work in a manner that could not escape the notice of his fellow-men, be they professional or laymen. As a result of this recognition of his unusual fitness and his attractive personality, positions and honors were thrust upon him ere he had scarcely stepped beyond the threshold of his chosen career. With that beautiful modesty, which is the handmaiden to greatness, he accepted the honors, not as honors merely, but with a full intention of conscientiously performing the duties that they incurred. His professional life as he shaped it, or as providence shaped it for him, was not alone a brilliant but also a progressively useful one; and added much to the advancement, not alone of veterinary science, but also to sanitary medicine and the live stock industry. His memory will always have associated with it, nobility of character, integrity of purpose and purity of life; attributes which were his. In his death the veterinary profession has suffered a calamity and the REVIEW has lost a valued collaborator.

## EUROPEAN CHRONICLES.

PARIS, August 15, 1909.

OOSPOROSIS.—Under the name of Oosporosis, Prof. Rogers prefers to designate a number of diseases due to parasites which have been placed in different families: Leptothrix, Streptothrix, Cladothrix, etc., and in the *Presse Medicale* of June 16 and 23, 1909, he has published two long articles on the subject, from which I extract the parts that may interest us as veterinarians.

Three oosporosis are actually individualized and well known. One is common to man and animals; it is actinomycosis, produced by the *Oospora Bovis* (streptothrix bovis, actinomyces) or better the *Oospora Bovis Communis*. The second is a special disease of horses, the African farcy, which has no connection with the farcy of cattle or of man; it is due to the *Oospora Farcinia* discovered by Nocard. The third is described under the name of Streptothrix Madua, and gives rise to a disease common in India; the Mycetoma or Madura's foot.

By its frequency and extension, actinomycosis occupies the first rank, and yet notwithstanding the numerous studies made on it, the biological characters of its pathogenous elements are not well established, the description given by the authors are quite different, and from them it seems proper to admit the existence of several parasites able to produce diseases, clinically analogous, if not identical. Some authors have proposed to designate under the name of actinomycosis the disease due to the agent most commonly met with, the Oospora bovis communis, and to call pseudo-actinomycosis the affections due to the other species or varieties of the same kind. But this expression of pseudo-actinomycosis is not acceptable, and it is better to apply that of Oosporosis with yellow tufts, reserving that of actinomycosic oosporosis for the most common diseases.

The observations of oosporosis with yellow tufts developing like actinomycosis are quite numerous. They give rise to suppur-

ations noticeable by their chronicity, their tendency to ulcerate in several places and give rise to lasting fistulæ. In all the cases the yellow tufts, characteristic of actinomycosis, are present; but their cultures give different oosporas, sometimes pathogenous to laboratory animals and again sometimes harmless. But with all that a positive fact exists, viz.: that lesions of actinomycosic appearance containing yellow tufts do not depend upon one single kind of parasites; and the mycologic study of each observed case becomes necessary so as to succeed in establishing some clinical distinctions relating to the nature of the parasite. At any rate, several authors have attempted to classify the actinomycosis. Cozzolino divides them into three groups: the true actino due to Oospora Bovis; the pseudo-actino due to four different oosporas: the O. Israeli, O. Affanassiew-Schultze, O. Liebmann, O. Poncet Dor, and finally the bacilli pseudo-actinomycosis, of which four varieties are admitted: the anaerobic bacillus of Sawtschenko, that of Krassnobajew, that of Lignières-Spitz and that of Cozzolino.

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The class of oosporas includes a great number of species. Saccardo has described seventy-nine. There must be added to those many more, designated as Streptothrix or Nocardia. Oosporas are existing in immense numbers in the air, on the ground, and in the water. And it can be easily understood how then they can easily be deposited on vegetables and animals. In a certain number of cases they live on vegetables in a kind of symbiosis, and give rise to various diseases and specially to nodular lesions. Brocq-Rousseau has described one kind which he found on oats, even on those that looked sound and healthy, and where these are exposed to dampness they take an odor of mouldiness. This oospora is known as the *Streptothrix Dassonvillei* and is much like the *Oospora Foersteri*.

Oosporas are frequently detected on vegetables and gramineous. They may readily infect, by a simple accidental prick,

the mucous membranes or the skin and give rise to disease. An Oesophageal Oospora has been caused by a prick from an ear of wheat. It is easy to understand that Oosporas, thus disseminated in vegetables, may soil teguments and skin of man and animals, specially the herbivorous. And it is not surprising to find frequently oosporas in the vaccine matter of the udders of heifers. The diseases produced by oosporas are specially frequent in herbivorous animals and in man. They consist at times in simple suppuration, at others in manifestations of tuberculous appearance. These two aspects are those assumed equally by actinomycosic lesions. For a long time clinics have brought out the analogies that exist between actinomycosis and tuberculosis. This clinical analogy corresponds perhaps to mycological analogies. Many learned people think that the so-called bacillus of tuberculosis is but an Oospora, which ought not to be placed among the bacteriaceous. The arguments in favor of this assimilation are already numerous and important, they deserve the attention of biologists. The works of many have confirmed the analogy existing between the agent of tuberculosis and oosporas. Reciprocally, in inoculating to animals cultures of oosporas, acido-resisting bacilli can be found in the lesions, which are by their form, size and coloration, identical to the bacilli of tuberculosis.

The constatation of bacilli thus analogous to that of Koch is then no longer sufficient to confirm positively a diagnosis of tuberculosis. If already acido-resisting bacilli can induce one in error, now the oosporas come also to interfere. Tuberculin itself is unable to solve the question, as animals inoculated with oosporas react like tuberculous animals will, a fact doubly interesting for clinics and nosography, as it establishes a new point of relation between oosporosis and tuberculosis.

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Abundantly distributed in the air, on the ground, in the water, upon living vegetables, on animal and vegetable putrefying detri-

tus, oosporas can with the greatest facility contaminate man and animal. Harmless parasites in many instances, they can give rise to infections which are often very serious.

Comparative pathology teaches us that there are oosporosis in invertebrates, reptiles, mammalia and specially herbivora. While Metchnikoff has shown that a disease of locusts, the muscardine, was due to oosporas, a similar origin has been found in many other diseases of animals of the same family. Oosporas have produced diseases in lizards and in adders.

Among mammalia, carnivoras are seldom affected. Rabe records, however, three cases of suppurative glands in dogs, one of them had purulent peritonitis and in the pus the author found a parasite, which he called Cladothrix Canis, an oospora.

Trolldenier made the post mortem of a dog where he found caseous pus in the bronchial glands and acute encephalitis with embolic nephritis. The lesions contained oosporas, which were cultivated and proved pathogenous to rabbits, guinea-pigs, cats and dogs. Among the observations relating to herbivora, Luginger published two cases of endocarditis in cattle due to oosporas. Silberschmidt recorded an observation of pulmonary pseudotuberculosis in a goat, where the histological sections of the lesions exhibited bacilli analogous to those of tuberculosis. The cultures gave an oospora and their inoculation was followed by abscesses or tubercles in rabbits and guinea pigs. In horses, Dean has observed an oosporic abscess, at the angle of the jaw. Wallee has found a new oospora in the blood of a horse that had died with pasteurellose.

The observations recorded in man are very numerous and after relating a few among them with cases where oosporas had been found in the meninges and in cerebral abscesses, in calcareous degeneration of bronchial glands and cavernous nodules of the lungs, and also in the parts of the organism opening on the surface of the body and communicating with the outside, such as the eye, mouth, and respiratory apparatus, Prof. Rogers concludes by urging the necessity for systematic studies and the

gathering of clinical observations by which this new chapter of Pathology, that of Oosporosis, may be completed.

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Botryomicosis and Its Parasite.—Known in man and animals, specially in horses, where it is so frequent and where among its lesions it constitutes most commonly the funiculitis of castration, botryomicosis has for a long time been considered as clinically specific. The anatomo-pathological criterium of botryomicomas is in the presence of the *botryomyces* or *yellow tufts, muriform masses,* floating in the pus of the fistulous or encysted in the hyperplasic fibrous tissue.

The yellow growth is then an ordinary common lesion, but yet its real nature is far from being fixed. Up to now, it was considered as the agglomeration of small rounded masses (muriform aspect) surrounded by mucoid envelop, in the substance of which the Gram colors numerous very fine granulations, that some consider as spores of the pathogenous fungus of the botryomicosis disease, while others describe them under the name of botryogenous micrococcus, which on account of its affinities for coloring, is related to an involutive form of the staphylococcus pyogenus aureus.

Taking up recently the study of this question, Maurice Letulle has come to a different consideration of the yellow tufts, which he reported in the Comptes Rendus de l'Academie des Sciences.

For this author the muriform masses are essentially composed of small hyaline masses containing, inclosed in their intimity, a substance in pulverent state, identical to chromatinian matter. He arrives at this idea, with the following observations: 1. The granulations that fix the Gram, but irregularly and more or less well, are all colored by hematoxyline acid, hematol or hematein, like fragments of chromatinian substance, remains of mortified cellular nuclei. Therefore, they would not be any more spores of fungi than altered or mortified microbes. 2. The an-

histidhomogenous substance, which remains colored in pale lilac after the Gram, becomes tinted golden yellow with picro-carmin, amber yellow with aurantia, brownish yellow with orange and cherry red with eosine; all coloring reactions which correspond in pathological histo-chemistry to the different varieties of hyaline matter. 3. In the pus of botryomycoma, one meets with muriform agglomeration, very small, in process of development, formed of spherical elements in a state of hyaline degeneration and filled with remains of chromatine. Sometimes some of the rounded elements are still isolated, they have an unbroken nucleus and hyaline balls in various number, 8, 16, 20 and even more. In others the nucleus is divided into fine granulations ready for chromatinian colors. One could almost assist at the conglomeration of those isolated elements which have undergone hyaline degeneration and filled with pulverulent chromatine.

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LETULLE has asked himself what could be the nature of these generating hyaline cells of muriform masses, of these *botryomycogenous cells,* as he calls them. He has always found them in the botryomycomas of man and of horses, at times isolated, often collected together. And again while studying in man, sections of mucous membranes diseased with a series of very different chronic affections (chronic enteritis, adenoma of the intestines or of the stomach, ulcerous chronic duodenitis, ulceration of the stomach, sporotrichosis of the mouth and throat, etc.), he has noticed the more or less frequent presence of specific cellular elements, identical to the botryomycogenous cells and in a state of evident phagocytose provided with marked contractility; allowing them to advance through the meshes of the interstitial tissue; those elements are nothing else but amæbas from the digestive canal, which is their normal habitat and which, by pathological circumstances have become parasitic infections for the organism. There is indeed an amibian dysentery. These amæbas are also met on the surface of the skin and one can readily understand

that by their migration in an inflammatory center, they can complicate any ordinary suppurating process.

The immobilized parasites contribute much in keeping up the vegetating inflammation. This may reach to the formation of a fleshy granulation in the middle of which are encysted amæbas; in other cases the botryomycoma suppurates and the yellow tufts appear in the pus where staphylococcus grow freely. According to the author, the parasite of botryomycosis is then an amæba, the suppurating varieties of this affection being due principally to pathogenous microbes, specially the staphylococcus. The suppuration of the botryomycoma, which at first seem to increase the phagocytar functions of the amæbas, hasten their hyaline degeneration and promote, while it increases, their necrobiotic conglomerata, under the form of muriform masses and yellow tufts.

Since the publication of this interesting study, others have come forward and confirmed the assertions of Letulle, by describing in a case of botryomycosis of man four evolutive forms of amæbas. Botryomycosis then becomes an amabiosis and is no longer a myocoscosis.

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Iodine as Cutaneous Antiseptic.—The use of tincture of iodine is not a new thing. But its exclusive use for sterilization of the skin, of a field of operation as well as for the hands of the surgeon is not so very old. It was Heusner, who in 1906 proposed to use a solution of iodine in benzine. He claimed to have obtained the sterility of the skin in 77 cases out of 100 where he used it, while with the ordinary methods he had only obtained it in 52 cases out of 100. Yet the method remained almost ignored and forgotten until 1908 when Grossich took it up and brought it back to the attention of surgeons. But this time the ordinary tincture itself without the benzine was used. If this ordinary tincture does not dissolve the fatty elements of the skin as thoroughly as the benzine, it is not so irritating to the skin.

There are three interesting points to observe in this application of tincture of iodine : 1. What is the scientific and prac-

tical value of the method? 2. What are the indications and contra-indications? 3. What is the modus operandi? Let us glance at these three points concisely.

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1. The method is the "disinfection of the skin by the application of the tincture *without any previous washing.*" Can this simple application be sufficient to obtain a perfect security to the point of view of the asepsy of the skin? Thus obtained, is the asepsy superior to that of ordinary methods of disinfection?

Grossich and Porter affirm that by the results they have obtained it represents the best method for skin disinfection. Grekoff and Walther approve of it also and say that an absolute and lasting asepsy of the skin can be obtained with tincture of iodine. Therefore it is well proved that asepsy is obtained and that the method is superior to all others.

It is admitted that a thorough soap and alcohol washing is generally sufficient for the disinfection of the skin. But this sterility of the skin does not last, after a short time sudorific and sebaceous glands pour over the skin again their more or less infected contents. And of course the result of the ordinary methods of disinfection is a perfect *superficial* cleaning, but one which is incomplete in depth.

With iodine it is different. In solution with alcohol, it penetrates very easily deeply in the intercellular and lymphatic spaces of the skin; it penetrates in the excretory ducts of the glands of the skin; it goes deep in the thickness of the dermis and destroys the microbes that it meets with.

However, if these facts seem to place the method with iodine superior to the others, it may be proper to wait for a larger number of applications before positive conclusions should be accepted. And again the method is so simple that it seems hard to accept it at once without greater experiments. Would it be prudent, indeed, to accept and use it in the presence of dirty and septic skins, without having at least resorted to a previous cleaning before applying the iodine.

Two experiments were made. One consisted in the ordinary disinfection first, followed by the coating of the field of operation with the iodine, and in the other without the washing with soap, but with one made with alcohol and ether. Failure in both. With the soap washing first, the penetration of the iodine was interfered with and incomplete. With that where alcohol and ether were used, the results have so far been insufficient, but they seem to show no advantage upon the simple iodine application without any cleaning of the skin of any sort.

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2. What are the indications and contra-indications? If similar to all the other methods, that of the tincture of iodine is equal to them in value, it must not be overlooked that iodine is a caustic and consequently its use has to be watched when applied in some regions. There are no general indications or contra-indications. Or if there are any, they may be called local. It shall not be used in regions with very thin and fine skin, round mucous membranes, near the eyelids, the nostrils. In the neighborhood of the genital regions or even the anus, attention is required. To resume, disinfection with tincture of iodine is indicated:

1. In cases of emergency, when one has not time to proceed to a minutious cleaning of a region, in cases of arterial wounds for instance.

2. When the application of the ordinary methods present difficulties or dangers, when it is too painful.

3. When during an operation, interference has to be applied in a region which had not been aseptized.

4. When sterilized water is not at hand or there is no time to prepare it.

5. On account of the power of penetration of the iodine, it is principally indicated in regions where the skin is thick and provided with large glands or in skins which are deeply infected.

3. The modus operandi is simple. The region is prepared, the skin shaved and with a little ball of wadding dipped in ordi-

nary tincture the entire field of operation is freely coated over. If local anesthesia is to be applied, resort to it only when the tincture of iodine is well dried. At any rate, at the moment the skin is incised, it will be good to pass another coat of iodine over the line of incision. When the operation is over, before applying the dressing, place a compress, moist with alcohol, over the whole iodined surface so as to remove the excess of iodine and prevent caustic effects. It is important not to use too strong tincture.

There is no doubt many conditions that may present themselves in the practice of veterinarians, where this handy method may render them good service.

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Blood in the Urine.—Searching for the presence of blood in the urine of sick animals is probably a means of diagnosis not usually resorted to, or at least in rare exceptions, by veterinarians. They often look for albumen, which is easily done, not so much for sugar which demands a little longer manipulation; and as far as blood is concerned, while the microscope is and will remain the best means of diagnosis of the presence of blood in urine, besides the classical method, there is a much simpler one which is the application of Meyer's reaction. This consists in the use of a special reactive, which is an alkaline solution of phenolphtaline, which every one can prepare by bringing to a boil, in a glass balloon a mixture of 2 grammes of phtaleine of phenol, 20 grammes of anhydrous potash dissolved in 100 grammes of distilled water and adding 10 grammes of porphyrized zinc powder. The mixture, which is red at the beginning of the heating process, gradually discolors, and when all the color is gone, the boiling fluid is then filtered. The boiling must be very short, four or five minutes, and as soon as the fluid has lost its coloration the filtering must be done at once. The preparation, put in a well-corked bottle, can be kept for months.

Searching for the reaction is simple. In a test tube pour 2 C.C. of urine to test 1 of the reactive, and shake for perfect mix-

ture. Then add three or four drops of ordinary oxygenated water at 12 vol.

If the test is positive, the mixture takes a fuchsine red color, more or less marked according to the quantity of blood in the urine. The coloration appears gradually between a few seconds to two or three minutes, after the addition of the oxygenated water. This method is very sure. It has proved its value in urine perfectly clear and good yellow color, with normal appearance and even in cases where the microscope revealed only the presence of a few rare red corpuscles in centrifugated urine.

The reaction is specific for the blood or for hemoglobin. It is detected in acid as well as in alkaline urine and in an ammoniacal purulent one, kept some time without antiseptic care. It is positive also in urine that contains albumen, pus, sugar, biliary products, etc. It is negative in urines that contain acetone, indican, or when iodides or bromides, salicylic acid, morphine, phenacetine, urotropine have been taken by the sick subject.

It is specific to demonstrate the presence of the blood in urines whenever it is present. Its easy application may suggest its use in veterinary practice, and that is the reason of its mention in these pages.

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"VETERINARY OBSTETRICS, INCLUDING THE DISEASES OF BREEDING ANIMALS AND OF THE NEW BORN" is the title of a recent addition to American veterinary literature, by W. L. Williams, Professor of Surgery and Obstetrics in the New York State Veterinary College of Cornell University at Ithaca. He is also the editor.

After a short preface, where the author makes allusion to the "most poorly and inefficiently" teaching of obstetrics in "American veterinary colleges and largely in the veterinary colleges of the world," and how the available obstetric literature in the English language is very unsatisfactory, Prof. Williams says that he does not want to fill "a need for a comprehensive volume upon

veterinary obstetrics and to closely related subjects, but hopes that the efficiency of his work will partly supply that need."

A concise introduction follows, and then page after page, without separation or indication of change in the subject, except by different printing types at a heading, the reader is introduced to: Obstetric Anatomy, Physiology, Coition with its Dangers and Infections, Menstruation, Fertilization, Sterility, Embriology, Teratology, Pregnancy, Hygiene of Pregnant Animals, Anomalies in Fecundation and Gestation, Diseases of the Pregnant Animal, of the Fœtus and its Membranes, Abortion, Normal Parturition, Distokia, Equipment for Obstetric Work, Obstetric Operations, Maternal and Fœtal Distokia, Pathology of the Parturient, Puerperal Infections, Eclamptic Diseases, Diseases of the Mammary Glands of the New Born; and then in the appendix, the granular venereal diseases of cows and the venereal diseases of sheep.

The whole work, which is the result of the greatest effort of the author, is handsomely presented, making quite a large volume of over 1,100 pages, illustrated with 154 figures and four photomicrographs after Thoms.

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I believe the veterinary profession of America has been expecting the work of Prof. Williams for some time and I have no doubt that it will be received by all, practitioners and students, with the appreciation that the efforts deserve. The work may not fill the expectations of every one, but what book does? It may not fil a need, and yet, with whatever deceptions may remain after reading it, no one will deny that, differing as it does, from what there is in English on the subjects that are treated by Prof. Williams, points of importance have received from him a much better attention than in whatever English works there are. And on that anyhow *the need can be considered as being filled.*

For me I must say that I do not fancy the general arrangement. It looks as a general mixture of all the many subjects that the work treats of, and has an appearance of merely notes

written now and then and afterwards gathered for the need of the case. A book of this magnitude wants to have the parts of which it treats clearly distinct. Their union or continuation must come by degrees. And for that reason I believe that this excellent work would have gained had the contents been divided into chapters. It is true that in the introduction we are told that a kind of subdivision, resembling one in chapters, is indicated, and that the contents of the book are divided in Obstetric Anatomy, Obstetric Physiology, etc., which would certainly even permit of the subdivision of some thus mentioned. But that is a trifling objection.

I fear the author has been too concise in some parts, such as his anatomy, or in the teratology; and again, perhaps, different readers will find that he has been too prolific in others, such as in the part that treats of sterility. For me, I believe that part alone ought to be sufficient to make the book of great value. The division made by Prof. Williams of the causes of sterility in males and in females and of the gathering of these in the shape of tables, even if according to Prof. Hesse, of Berne, with the pathology given, for every one is certainly a most important addition. And again, one of the innovations made and which cannot fail to attract attention deservingly, viz.: that which follows Obstetric Physiology and treats of the dangers and infections of coition, and where the author relates the personal experience he has had with the subjects. No doubt that the articles on Specific Infections, Dourine, Genital Horse Pox, Venereal Diseases of all the Domestic Animals, etc., will prove of great interest. The grouping of all these accidents is genuine, and simplify their studies considerably.

Among the parts where I thought the author has not been up to my expectations, is that which relates to the accouchements proper, whether normal or abnormal. I know that Professor Williams has had very many opportunities to deliver females of all sizes and of all species. There is no doubt that his experience in that direction is very great and very valuable. And I am sure that many will look for detailed personal descriptions, which

might have also been illustrated. The figures that are in Veterinary Obstetrics are certainly meagre and would be of little assistance to one looking for information, especially if his case was the first he had to deal with in his practice.

In conclusion, I may regret the absence of any bibliographic table in any part of the book. Such may be considered as not essential or of any use by some, but yet it is certain that for many readers, for students, for reference, a list of whatever is written on the subject may be of great advantage.

In this rapid consideration of Veterinary Obstetrics I have given the impressions that the work has left in me. I am afraid I have not done it justice and perhaps my remarks are too general, but with all that they cannot take off from the book of Prof. Williams any of its superior qualities and of its immense usefulness to all those who will be looking for sound, new and up-to-date information. The professor has evidently worked hard and there can be but one voice among us all to say that Veterinary Obstetrics is a most valuable addition to the literature on the subject, one of which the veterinary profession of America can be proud.

However, critical reviewers of scientific works, we imagine, ought to possess some peculiar qualifications to be able to do justice to the work they are called upon to review, and specially when this is a kind of specific work. And on that account my remarks may be lacking the stamp of competency which in this case ought to be that of an obstetrician; not being one, perhaps I am not thoroughly competent for the consideration of the minute details contained in Williams' work. With that feeling I have had no hesitancy in asking Professor Moussu to look over the work. He is an obstetrician, he is professor of that specialty in Alfort, and surely his opinion will carry much weight. Let us see what Professor Moussu* says:

"Veterinary Obstetrics of Professor Williams is of a peculiar "interest, differing notably from our classical works on the sub-"ject. To tell the truth, it is more than a book on obstetrics, in

* That is the translation.

" the strict sense of the word, it is the physiology and the path-
" ology of the function of reproduction. Indeed the professor
" does not limit his subject to normal accouchements or distoki,
" he extends it to all the diseases, which take their origin in the
" organs of reproduction amongst the males or females of the
" various species of our domestic animals. The result of which
" has been the edification of a very precious book for veterinar-
" ians as well as for breeders.

" The first part treats of the anatomy of the organs of gener-
" ation and of the pelvic canal as well as of the annexes and of
" the mammæ. The second covers the physiology of generation.
" These are concise, sufficient and without superfluous details.
" They are followed by the accidents and diseases which may re-
" sult from coition: accidents from defectuous matching, errors
" in copulation, vaginal perforations, etc., etc.; or again diseases
" transmissible by coition, horse-pox, coital exanthema, dourine,
" etc., in mares, granular or varicuous vaginitis in cows.

" This method of considering these conditions is evidently
" perfectly logical, and as stated before, it guides the breeder in
" the series of phenomenas which according to circumstances do
" sometimes necessarily follow the act of copulation.

" Those accidents and diseases may be dependent only from
" coition without fecundation taking place, and it is for that rea-
" son that in the next chapter fecundation and sterility are treated.
" Guided in his work by the natural succession of things as they
" may be observed in practice, Prof. Williams gives plenty of de-
" tail on the sterility of males and females and of its causes, cur-
" able or not: anorchidy, criptorchidy, azoospermia, orchitis, tes-
" ticular tumors, etc., etc., in males: ovaritis, cystic ovarian de-
" generation, tumors, etc., etc., in females and also upon nympho-
" mania. Assuredly this is one of the most important problems
" of breeding from the economical point of view, and in which
" much yet remains to be learned. To this study is added that of
" frigidity and that of direct or indirect artificial fecundation.

" Always in the same line of conduct, the author studies then
" the development of the embryo and the abnomalies which may

"give rise to congenital malformations or monstrosities. These "are followed by the diseases of gestation and of course of the "infectious abortions. All these are perfect and full of excellent "data. Gradually these various considerations have brought us "to the study of the normal and distokial accouchements, which "are the object of a concise but precise description. Prof. Wil- "liams insists somewhat and, with reason, upon the equipment of "the accoucheur, upon the instruments to use, the operations to "perform, etc., etc.

"An excellent innovation deserving the attention is that re- "lating to the figuration of the obstetrical operations in embry- "otomy. It is a precious teaching for future obstetricians, al- "though some of them seem to me discutable. Diseases of the "fœtus, as far as they are known are clearly exposed, as well as "those of the fœtal envelops and of the cord. The fœtal mon- "strosities of classical arrangement is well treated. There is "little to say of the abnormal presentations and positions of the "fœtus, it is the classical arrangement of similar works. The "means of interference are also the same.

"The work ends by the no less important subject than the "diseases and accidents post partum, or the affections of the "puerperal state, non-delivery, post partum hemorrhage, ruptures "of the uterus and of the bladder, etc., etc., acute and chronic "metritis, eclampsia, mammitis, etc., etc.

"To resume: In this big volume of about a thousand pages "in which the descriptions are illustrated with good figures, all "that concerns the physiology and pathology of reproduction is "found. The accouchements proper occupy a part sufficient "without superfluous details but the pathology is certainly most "interesting, as it is the one which varied the most and is most "improved, as our knowledge of the origin and treatment of "diseases is becoming more perfect.

"Obstetrics is an excellent work. One which does honor to "the author, to veterinary science and which will render real "services to young veterinarians and to breeders."

A. L.

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P. S.—At the time that I write this, the Ninth International Veterinary Congress will be nearly a month off and by the time this chronicle will be before our readers the gathering of La Hague will have closed since a few days. It will be probably only in my chronicle of November that I will be able to report what work has been done at the Congress.

A. L.

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## EXPANSION OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION.

The closing of the great veterinary convention at Chicago in September marked the completion of another chapter in the history of the American Veterinary Medical Association. Important and interesting as has been its history during the forty-six years of its life (more especially the last twenty-five years since it became of age), this forty-sixth chapter is, from many standpoints, the *most* important in its history.

Year by year it has expanded and grown stronger and made its strength felt for good. It has uplifted the veterinary profession in America and by its ceaseless endeavor, elucidated many sanitary problems of great moment to the nation. And, we believe, in the appointment at the Chicago meeting, of an international commission to study methods of control of tuberculosis, it has entered a broader field of endeavor, materially increased its usefulness to the governments it represents, and marked an epoch in its history. Its power consists not alone in the numerical strength of its membership, but in its broad conception of the needs in matters sanitary, which is the result of a long, careful and earnest study of the conditions. This point was kept vividly in view in the appointment of the commission, which is as follows: Drs. J. G. Rutherford, Ottawa; Leonard Pearson*, Philadelphia, Pa.; Veranus A. Moore, Ithaca, N. Y.; E. C. Schroeder, Bethesda, Md.; ex-Governor Hoard, Ft. Atkinson, Wis.; Drs.

*Since deceased.

Frederick Torrence, Winnipeg; M. H. Reynolds, St. Paul, Minn.; Hon. W. C. Edwards, Drs. C. A. Hodgets (M.D.), Toronto; J. R. Mohler, Washington, D. C.; Messrs. Louis Swift, Chicago, and J. W. Flavell. Numerical strength, however, is as natural a sequence of power, as it is a contributor to it; and now that the A. V. M. A. has *some* numerical strength in an army of a little better than a thousand earnest members, and *much* strength in the ability of those members to "do things" and prove the association a powerful factor for good; and while we congratulate it in having increased its membership from 846 to about 1,025, at the Chicago meeting, we state at the risk of being called extravagant, that there is no real legitimate reason, why it should not double its membership at the next meeting, and continue to increase in numbers, until, as Dr. Rutherford remarked at the close of his presidential address, "with every reputable veterinarian on the continent enrolled under its banner, it reaps the rightful reward of its unselfish and public spirited labors and becomes the actual governing body of the profession in America." The old story of a snow ball gathering an increased amount of snow at each revolution is applicable here. It would only be necessary, now that the A. V. M. A. has reached its present numerical proportions, for each member to interest one of his friends in the profession sufficiently to induce him to fill out an application for membership (and the present powerful position of the association should make it easy for any one to interest one good member of the profession to that extent), and our extravagant forecast will have become an accomplished fact. It is therefore earnestly hoped that every member will begin his work in that direction now, not next August, but *now*; remembering that under the new ruling, no applications that are not received *before* the 1910 session opens will be acted upon at that session. Begin your canvass now, and send each applicant's name with your own to the REVIEW office as you get them, and we will publish a list every three months. You can scarcely realize what you will have accomplished for your chosen profession when you enroll that applicant's name.

# ORIGINAL ARTICLES.

## DIAGNOSIS OF RABIES.*

### Its Spread and Methods of Control in New York State.

By Veranus A. Moore, Ithaca, N. Y.

Rabies has been allowed to spread in this country until its control has become a perplexing problem for many states. As a sanitary question it has assumed a magnitude sufficient for national consideration.

Notwithstanding the great antiquity of rabies there is perhaps no other specific malady which people are still so unwilling to recognize as this. The skepticism regarding it forms a troublesome barrier to the introduction of efficient methods for its control. This obstacle can be overcome only through a campaign of education in which the long-time traditions that rabies is a myth or that it originates from the influence of great heat, thirst, nervous excitement, anger, and a host of other conditions, are replaced by a proper conception of its specific nature.

We now know rabies to be an infectious disease which prevails most among the dog tribes, although all warm-blooded animals, including man, are susceptible. It is transmitted from animal to animal and from animal to man through the bite of the rabid individual or by other direct inoculation. While its cause may still be questioned, its means of dissemination are well known, so that methods for its control are clearly indicated. With its means of dissemination known, the first difficulty in the effort to control this disease is a method of making an early, quick and accurate diagnosis.

As a result of the large amount of work that has been done in search of the specific etiology of rabies, many supposed

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causes have been described. The bodies discovered by Negri, in 1903, in the motor cells of the central nervous system are very generally accepted as either the specific cause or a specific degeneration. In either case they are of recognized value in diagnosis. Ernst places the accuracy of diagnosis by these bodies at from 96 to 99 per cent.

In the State of New York rabies has existed for many years. The earliest record of its appearance which I have found was in 1822 at Milton. In 1833 it was reported at Rochester. From 1848 to 1854 there were several cases in New York City. Since that time the literature contains records of its appearance in various parts of the State.

My personal knowledge of the disease in New York dates from 1896, when a dog which proved to have rabies was sent from Buffalo to the New York State Veterinary College for diagnosis. In the two following years a suspected dog was received from both Columbia and Saratoga counties, which are in the eastern part of the state. They were both positive. During the next few years the disease spread from Buffalo eastward and from the eastern counties westward until the outbreaks overlapped near the middle of the state. There were, however, but few cases sent to our laboratory each year for diagnosis until 1904, when the number was larger, and during the last two years the number has greatly increased. In 1906 there were 32 examinations; in 1907 there were 63; in 1908 there were 315, and in 1909 to August 1, there were 425. There have been more cases for examination during the last seven months than there were during the preceding three years, and in 1908 the number exceeded that of the preceding nine years. Up to 1909 about 30 per cent. of the cases sent to us for examination were negative. During this year the percentage of negative cases has been considerably larger but the total number of positive ones has been steadily increasing.

Of our toal of 921 examinations for rabies from 1899 to August 1, 1909, 840 were in dogs, the remainder in horses, cattle, sheep, pigs and cats. In the first seven months of this

year we have received heads of 11 horses, of which 5 were positive, and 14 cows, of which 9 were positive. It was reported by a state official connected with the work on rabies that this disease had caused the loss of $4,000 worth of live stock in a single county during the last year.

The fact should be stated that these examinations have been made of suspected cases originating outside of New York City. The diagnosis in that city are made at the research laboratory of the City Health Board. The number of cases sent to that laboratory for examination during the last seven months of 1905 was 95, of which 63 were positive and 32 negative. During the same period in 1907 there were 157, of which 117 were positive and 40 negative. During the last year, I am told that the Health Board has received about the same number of cases for examination that have come to us.

In addition to the diagnosis mentioned a certain number of suspected cases are examined in the laboratories in the cities of Buffalo, Rochester, Syracuse and Albany. The Pasteur Institute in New York City also does a considerable amount of work along this line.

Methods of Diagnosing Rabies.—As the most striking character of rabies is the absence of recognizable morbid changes, the microscopic ones are essential for diagnosis, although they are not always easily found, especially in animals that are killed during the early stages. It is clear, therefore, that the positive diagnosis is not possible from the gross appearances at the post mortem and that, like certain other specific infections, it requires the aid of definite laboratory methods.

The diagnosis of rabies is made from the symptoms in the suspected animal; the changes described by Babes and Golgi; the cellular proliferation in the plexiform ganglion; the subdural intra-ocular or intramuscular inoculation of animals with the suspected brain; and the finding of Negri bodies.

The diagnosis from the symptoms is very difficult in many cases, and impossible in some. Coakley has recently called attention to the pathognomonic eye symptom which consists of a pin

point contraction of the pupil that is not influenced by light. Porcher found in the study of experimental rabies a marked glycosuria which in some cases appeared a few days before the clinical symptoms. These, however, are evidences not likely to be very definitely ascertained by the average practitioner who is dealing with suspected cases of rabies. The symptoms are so different from those popularly entertained as characteristic of the disease that those not familiar with them are liable to error. Difficulty in swallowing, partial paralysis, restlessness or unusual docility are suggestive manifestations which in case of doubt warrant a positive diagnosis by laboratory methods.

The changes in the brain tissue pointed out by Babes and Golgi are difficult and occasionally impossible to find. The observations of Van Gehucten and Nelis, that the cells in the plexiform ganglia undergo atrophy with the invasion and destruction of the ganglion as a result of new formed cells, evidently from the endothelial capsule, have been verified. These changes, however, do not appear early in the course of the disease, so that they are very unreliable for diagnosis when dogs are killed. On the other hand, they have been in my experience very trustworthy when the animals have been allowed to die from the affection.

The presence of Negri bodies has been found a very convenient as well as rapid method of diagnosis. They appear within the large cells of the hippocampus, crucial fissure, olfactory bulbs, Purkinje cells, and in other places. In those cases where Negri bodies cannot be found, the examination of the ganglia is called for and if they are negative animal inoculations are necessary.

The diagnosis by animal inoculation, which was the only method known up to a few years ago, is perhaps the most certain, but the time necessary to obtain results is so long that rabies may develop in the persons or animals bitten before the inoculated rabbits or guinea pigs develop the disease. The usual procedure, therefore, which we have adopted for diagnosing rabies in the laboratory is first to search for Negri bodies, if

they are found the diagnosis is considered positive; if they are not found the ganglia are examined, and if they are negative experimental animals are inoculated if the conditions are such that a late diagnosis will be of value.

We have experienced the usual difficulties in diagnosis work in deciding upon the details to be followed both in the shipping of the suspected material and in the examinations themselves.

The simultaneous examination of the brain for Negri bodies, of the ganglia for the structural changes, and the inoculation of rabbits to test the presence of the virus, gave the result that the rabbits always developed rabies when inoculated with brains containing Negri bodies and they did not when these bodies were not found. The ganglia changes were present when the animal died or was killed late in the course of the disease. The triple examinations were made for a year with the result that we found that the presence of Negri bodies could be relied upon for diagnosis. In 60 cases where Negri bodies were not found, we have inoculated rabbits or guinea pigs with the brain and not one of the animals has developed rabies. Valpino and d'Amato have reported similar results. Negri, Daddi, Luzzani and Macchi and Luzzani have a total of 9 cases in which the brain was virulent from 160 suspicious cases in which Negri bodies were not discovered. In 71 suspected cases Bohne did not find Negri bodies and animals inoculated from 10 of them developed rabies; the others did not. In a large number of these the search for Negri bodies was restricted to the examination of the Ammon's horn. The result of the large amount of work that has been done on the distribution of the Negri bodies in the brain and spinal cord suggest that a negative finding in one part of the brain should not be accepted as positive evidence of their absence. We do not believe that the microscopic examination for Negri bodies is infallible, but our experience indicates that it is exceedingly trustworthy when properly made. The advantages of the Negri bodies for diagnosis are threefold: (1) they can be found early in the course of the disease, (2) the diagnosis can be made quickly, and (3) their discovery

is not difficult and does not require elaborate apparatus nor the use of experimental animals.

The best method to follow in the examination for Negri bodies cannot be stated. The smear preparations recommended by Williams and Lowden, the "impression" preparations employed by Frothingham, or the fixing of the hippocampus in Zenker's formalin or other fixers preparatory to cutting sections, or the fixing in acetone and staining by Mann's method as suggested by Ernst, all seem to give satisfactory results. Just which method to use can be determined only by experience. We have used them all in our laboratory. One assistant prefers the smear preparations stained with eosin and alkaline methylene blue, and another the fixing of the brain in acetone and staining the sections by Mann's method. Personally, I prefer the "smear," and it has the advantage of being simpler. We have not succeeded so well with the impression method, but the preparations of Frothingham are most excellent.

The technique of diagosing rabies by the ganglion changes is not different from that employed in ordinary histological work and consequently need not be discussed here. The point should be stated, however, that in our experience it has not been trustworthy in the early stages of the disease. The ganglion lesions seem to develop late in the course of the malady.

The inoculation method is familiar to all. The only point which seems worthy of mention is the observation that the inoculation must bring the virus in close touch with the nervous system. The supposition that the virus travels to the central nervous system through the nerves explains why it is that subcutaneous inoculations are frequently negative. It also furnishes a logical explanation for the comparatively small percentage of positive cases in man following the bite of a rabid dog when the wound is on the extremities, and the much higher mortality when the bites are about the head.

We have made many attempts to produce the disease by feeding the brains of rabid animals but thus far with negative results.

METHODS FOR SENDING MATERIAL FOR DIAGNOSIS.—The difficulties in the laboratory diagnosis of rabies are not confined to the technique of the examination. The condition of the material sent for diagnosis is often most discouraging when received. Formerly it was the custom to send the entire animal, if a small one, to the laboratory, but this was unsatisfactory. As the diagnosis depends upon the findings in the ganglia or brain, we recommended that the head be severed close to the body, packed in ice and sent by the quickest route. This we found to be fairly satisfactory, yet the heads are too frequently badly decomposed when received.

Nocard pointed out the fact that the virus of rabies remained virulent for from three to four weeks when the brain was placed in glycerine. Dr. Boynton, in my laboratory, has examined for Negri bodies brains that have been kept in glycerine with positive results.* As the glycerine prevents decomposition, the brains thus preserved are available both for microscopic examination and animal inoculation. It is recommended therefore that the heads be removed, packed in ice, and sent to the laboratory, or the brain removed and placed in a jar and packed in ice, or placed *in toto* in glycerine. The important point for the laboratory worker is to receive the material in a condition that will permit of a satisfactory examination. Which method of transportation is selected should depend upon the existing conditions.

CONTROL OF RABIES.—The successful methods for controlling rabies have all been based on the fundamental fact, long since recognized, that the virus must not be transferred from the infected to the well individual. As rabies is disseminated largely by the bites of rabid dogs, the question of its control narrows itself at once to the handling of dogs. Rabies has been kept out of Australia by enforcing a six months' quarantine on all dogs coming into the island. Great Britain has practically eliminated it by enforcing a muzzle ordinance.

* In August, 1908, he placed brains in commercial glycerine and has examined them at short intervals since. At the expiration of 368 days the bodies were readily detected.

In New York the method is to quarantine the locality in which the rabid dog was found. The difficulty has been that the area quarantine has been too small, owing to the long distance which a rabid dog may run, so that frequently dogs which have been bitten by a rabid dog in its course of wandering are not included in the quarantined district. The authority to lay a quarantine is vested in the Commissioner of Agriculture. The Commissioner may call upon the sheriff, under sheriff or deputy sheriff to carry out and enforce the provisions of any notice and the cost of the same shall be a county charge. If in a city, the city authorities must enforce the regulation and the city pay the bill. That portion of the statute relating to the quarantine for rabies is quoted:

"If the commissioner shall quarantine any particular district or territory for the purpose of stopping or preventing the spread of the disease known as rabies, and if any dog be found loose within said quarantine district in violation of said quarantine or regulation, any person may catch or cause to be caught such dog and have him impounded or confined. If the said dog is thereafter not found to be affected with the disease known as rabies, it may be released to the owner upon payment of a penal sum of ten dollars to the commissioner of agriculture, who shall upon receipt and acceptance of the same issue to the said owner a release which shall entitle the said owner to the possession of said dog. If such penalty is not paid within five days after said dog is impounded, and notice thereof given to the owner, or if it is found impracticable after reasonable effort to catch and impound such dog so loose within the said quarantine district in violation of said quarantine or regulation, or to find the owner of a dog so impounded, then any person may kill or cause to be killed such dog and shall not be held liable for damages for such killing. For the purpose of enforcing the provisions of this article the commissioner of agriculture, his appointees and employees shall be considered as peace officers and shall have all the rights and powers of peace officers."

This law was passed at our last legislature and has been in

operation but a short time. It seems to be working well. It is feared, however, that there is still a strong opposition to the quarantine extending over sufficient territory to include all of the exposed animals. There is a feeling on the part of many that the ravages of rabies are sufficient to warrant a state quarantine. Whether that would be effective without similar action on the part of adjoining states is, of course, undetermined. The control of rabies has become a national as well as a state problem, and it seems proper that for a little time the entire country should submit to the very slight inconvenience that a dog quarantine would impose in order to eradicate this rapidly increasing scourge. The large number of fatalities from this disease in man as well as in domesticated animals warrants the enforcement of some regulation to check the spread of its virus. The results in Europe show that it is possible to eradicate rabies within a reasonable time and to keep a country free from it. Why should America suffer from rabies when a thickly populated country like Great Britain is free? Measures to that end are not only possible, but most humane. Whether efficient regulations different from those that have already been demonstrated as such, and which can be enforced with less opposition, can be formulated, I do not know. It certainly seems fitting that this Association take some action towards the alleviation of the horrible suffering of dumb creation from this unnecessary parasitism.

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# THE NATURE, CAUSE AND PREVALENCE OF RABIES.*

## Nature and Characteristics of the Disease.

By John R. Mohler, V. M. D., Washington, D. C.

The skepticism with reference to the existence and prevalence of rabies in animals, or hydrophobia in man, strange as it may seem, is still entertained by a few prominent professional men. Their contention shows an unwillingness to accept the work of reputable investigators along this individual line, although other results obtained by the same investigators upon allied subjects are accepted and advocated. There is no greater galaxy of names associated with the study of any of the infectious diseases than is connected with the experimental investigation of rabies. The most able scientists who have adorned the medical and veterinary professions, and to whom we owe the greatest deference for having advanced our knowledge of contagious diseases, have repeatedly shown by their experiments that rabies is a specific, communicable disease, pre-eminently affecting the canine race. Many years of patient scientific research have been required to lead these investigators to a clear comprehension of the nature and characteristics of this disease. It was known and described several centuries prior to the beginning of the Christian era, and from the earliest dawn of history the disease has been feared and dreaded. But it has been only comparatively recent since we have arrived at a tolerably clear understanding of the facts concerning this disease, which have to a certain degree displaced many of the fallacies and superstitions that have had a strong hold upon the public mind for many years. Nevertheless, it is still a widely prevalent belief that if persons or animals are bitten by a dog, they are liable to become rabid if the dog should contract the disease at any future time. There is no foundation for this impression, and it would be a great comfort to many people

*Presented at the Forty-sixth Annual Meeting of the A. V. M. A., at Chicago, Sept. 7, 8, 9 and 10, in connection with the report of the Committee on Diseases.

who are now and then bitten by animals if the fallacy of this idea were appreciated. All experience, both scientific and practical, goes to show that rabies is transmitted only by animals that are actually diseased at the time the bite is inflicted. Under natural conditions this is the sole method by which the disease is transmitted, and therefore the old idea of spontaneous generation of the malady is absolutely fallacious. Artificially, it may be readily produced by inoculating susceptible animals with an emulsion of the brain or spinal cord as well as the saliva, milk or other secretions of the affected animal. The blood, on the other hand, seems to be free from the infectious principle. The saliva contains the virus which under natural conditions is introduced into or under the skin on the tooth of the rabid animal. Following the canine race, cattle seem to be the most frequently affected, probably because rabid dogs, next to their morbid desire to attack members of their own race, have a better opportunity to bite grazing cattle than any other species of animals. The relative frequency of rabies in these two species of animals is indicated by the carefully computed statistics of the German Empire, which show that 560 dogs and 78 cows died of rabies in 1901, while in 1902 there were 516 cases in dogs and 77 in cattle. Every animal or person bitten does not necessarily develop the disease, and the percentage of fatalities has been variously estimated. According to Hogyes, the proportion of persons who contract the disease after being bitten by rabid dogs and are not treated is conservatively estimated at 15 per cent. The percentage is considerably higher in man following the bites by the wolf. From 35 to 45 per cent. of the dogs, 40 per cent. of the horses, 36 per cent. of the hogs, and from 25 to 30 per cent. of the cattle bitten by rabid animals contract the disease, making a general average of about 30 per cent. This, however, depends on the location and size of the wound as well as the amount of hemorrhage produced, and various other conditions. In general, the nearer the bite is located to the central nervous system and the deeper the wound is inflicted, the greater the danger of a fatal result. In cases where the hemorrhage resulting from the

bite is profuse, there is a possibility that the virus will be washed out of the wound and thus obviate the danger of subsequent appearance of the disease. The virus after being deposited in the wound remains latent for an extremely variable period of time, which also depends on the size and depth of the wound as well as its location and the amount of virulent saliva introduced. Experiments have proved that the virus follows the course of the nerves to the spinal cord and along the latter to the brain before the symptoms appear. Gerlach having collected statistics from a large number of cases has found the period of incubation to vary from 14 to 285 days. The great majority of cases, however, contract the disease in from three weeks to three months after the bite has been inflicted. It has been clearly demonstrated by the experiments of Roux and Nocard that the bite of a dog is infectious at least three days before it manifests symptoms of rabies, while at the Athens (Greece) Pasteur Institute infection was noted in the saliva eight days before the dog showed signs of the disease.

ETIOLOGY.—Rabies is a specific infectious disease involving the nervous system and characterized by extreme excitability and other disorders, practically always terminating in death. The contagion of this disease has never been isolated, but the fact that it is caused by a specific organism principally found in the nervous system is indisputable. For instance, if an emulsion of the brain of a rabid animal is filtered through a Pasteur-Chamberland filter, the filtrate will be harmless. On the other hand, if a similar emulsion is filtered through the more porous Berkfield filter, the virus will be found in the filtrate. This fact indicates that the infectious principle is not in solution, but is an organism of such size as to be withheld from the filtrate by a very fine filter. Further proof of the organic nature of the virus is furnished by the fact that heating at 50° C. for one hour will render the virulent emulsion inert, while similar results follow its exposure to light for fourteen hours, to the usual antiseptic solutions for a short period, or to the action of the gastric juice.

This contagion can only be propagated in the body of an animal, and despite numerous attempts to cultivate it artificially upon

various culture media, only negative results have followed. There is no doubt that between rabies and other well-known infectious diseases there are analogies at many points, the most striking being the protective immunization which constitutes the great work of Pasteur. Moreover, the disease is transmitted from one animal to another through a long series, which indicates the presence of a living organism capable of multiplication, rather than a mere toxin which would naturally become greatly diluted and innocuous by passage through such a series. In addition, the behavior of the disease makes us certain that it is caused by a specific micro-organism which after introduction into the body undergoes a period of incubation, during which it multiplies and subsequently produces certain definite symptoms and lesions which terminate in death. Innumerable attempts have been made to discover the causative agent and investigators have announced the finding of many of the lower forms of animal and vegetable life as the pathogenic factor. Among the recently described causes, certain protozoon-like bodies, found in 1903 by Negri, in the ganglionic cells and termed Negri bodies, are of a very suggestive nature. Negri claims that these bodies are not only specific for rabies, but that they are protozoa and the cause of the disease. His work has been corroborated by investigators in all parts of the scientific world, but there have been so many claims presented in the past regarding the specific cause of rabies, that a number of contemporaneous workers on rabies, while admitting the diagnostic value of these bodies, refrain from stating that they are the causative agents. Some of these observers consider the Negri bodies as "involution forms" of the tissue cells which have been invaded by the true parasite, or as encapsulated parasites undergoing degeneration.

Personally, it is my belief that these bodies are the specific cause of rabies. They are from .5 mm. to 25 microns in size, oval, round or pear-shaped, and strongly eosinophilic. They possess a homogeneous substance resembling coagulated albumen in appearance. Within are clear hyaline bodies which show one or more points of deep color on high magnification. An examina-

tion of their viability will show a striking resemblance to the viability of an emulsion of the virulent tissue. Thus Negri bodies have been found to be quite resistant to external agencies such as putrefaction, desiccation, etc., and are about the last portion of the nerve cell to survive the advance of decomposition. They are also found in over 96 per cent. of the cases of rabies examined, but have not been proved to exist in other diseases.

Valenti states as his strongest evidence of the protozoan nature of the bodies, that the virus of rabies is neutralized in test tubes by quinine, while no other alkaloid has this property. As a result of the work performed in the New York City Board of Health Laboratory, Park states that Negri bodies are found in animals before the beginning of visible symptoms, and evidence is given that they may be found early enough to account for the infectiousness of the central nervous system. Williams' reasons for considering these bodies organisms belonging to the protozoan class are:

(*a*) They have a definite, characteristic morphology;

(*b*) This morphology is constantly cyclic, i. e., certain forms always predominate in certain stages of the disease, and a definite series of forms indicating growth and multiplication can be demonstrated;

(*c*) The structure and staining qualities, as shown especially by the smear method of examination, resemble those of certain known protozoa, notably of the rhizopoda.

Anyone who has seen the suffering of one human being affected with this fatal disease will readily concede that no amount of inconvenience caused animals by muzzling or other protective arrangement can ever be considered too much to prevent such suffering, nor should it prove difficult to differentiate between hydrophobia and the pseudo form which has been termed lyssophobia if all the cases of these diseases were as typical as the two which were brought to the writer's attention.

Through the courtesy of the District Health Officer, I was invited to visit Freedmen's Hospital for the purpose of seeing a patient whose case had been diagnosed by the resident surgeon as

suspected hydrophobia. The woman, 28 years of age, had been fiercely attacked and severely bitten on the right forearm and about the face by a stray collie dog. Eighteen days later she complained of a general malaise and pains in the cicatrized wounds of the head, which rapidly grew more severe, necessitating the services of a physician, upon whose advice the patient was removed to the hospital on the following day. My visit occurred on the afternoon of the succeeding day, at which time the patient was found in an extremely nervous condition, having an excessive feeling of fear and uneasiness. The eyes were staring and a general expression of anxiety pervaded her countenance. Her mind was clear and no efforts at violence were made. When interviewed as to the scars on her head and forearm, she lightly replied, "Oh, a dog bit me there some weeks ago, but they are all right now." From time to time reflex spasms involving the muscles of deglutition were noticed, causing a clutching at the throat and difficult breathing during the attack. These rapidly became more generalized and soon involved the respiratory muscles, causing dyspnea. Attempts at vomiting would then occur, but no evacuations followed. Contrary to our skeptical friends, the patient accredited these symptoms to indigestion and had not the slightest suspicion of the true nature of her condition, thus disproving the idea that the nervousness and fear usually seen in the early stages of rabies in the human subject are due to the natural dread of the disease and apprehension of the consequence rather than to organic changes in the central nervous system. During the night these symptoms became more aggravated and spasms followed one another more rapidly, causing grave delirium. The patient finally became violent, requiring the adoption of forcible measures to keep her under control. Death occurred on the following morning, twenty-one days after the bites had been inflicted. On post-mortem examination no pathological lesions were found which could be held accountable for the symptoms which resulted in death, but histological examinations of the plexiform ganglia and medulla as well as the inoculation of rabbits both subdurally and intramuscularly with

an emulsion of the brain resulted in the confirmation of the diagnosis of hydrophobia.

That the appearance of a disease like rabies in a community seems peculiarly and in an extraordinary degree to be associated with an atmosphere of hysterical simulation and to inspire states of auto-suggestion must be admitted. One case of this character recently came to my attention through the kindness of a local physician which is in direct contrast to the instance cited above.

A young man, 24 years of age, employed as a clerk in a dry goods store, was bitten on a Saturday morning by a watch dog belonging to the proprietor. The bite, which was slight, had been immediately cauterized, and no further attention was given to the incident until Wednesday morning, when the young man fainted at the counter. Upon reviving he stated that he had been reading about rabies and the symptoms which would develop in man from the bite of a rabid dog, and insisted that he was developing hydrophobia as a result of having been bitten by the watch dog. He was immediately sent to his home and the dog brought to the Bureau to be kept under observation. Two days later I was requested by the family physician to see the young man, as he was in a very hysterical state and kept insisting that the dog that bit him was rabid. During this time the patient had been in bed and seemed to have had marked paroxysms. He would roll himself over and over in bed, snarling, growling and snapping at the bed clothes. He would catch the pillow or sheet with his teeth and shake it like a terrier shaking a rat, and in numerous other ways would show more imitative accuracy than in the genuine disease. At first it was impossible to attract his attention, although he would mutter and talk to himself. When he was informed that the dog that bit him did not have rabies, that it was alive and well, and even if it did develop rabies several weeks later, it would have no bearing on his case as the saliva would not be virulent such a long period before the development of the symptoms in the dog, and furthermore that he had developed symptoms entirely too soon after the bite had been inflicted, as a more lengthy period of incubation had to

intervene for the virus to multiply and produce its effect, he commenced to realize that he had been making himself a victim of auto-suggestion, and rapid recovery followed. Here was a typical case of lyssophobia or pseudo rabies, a figment of an overworked imagination, and like all this class of cases, recovery took place instead of death, which is always the termination of the true disease.

It has been stated by certain physicians that tetanus is undoubtedly the true cause of death in the majority of instances where rabies has been diagnosed. It is not my purpose to give a differential diagnosis between these two diseases in man, but there is such a marked difference between a horse affected with tetanus and one with rabies, or a cow affected with tetanus and one with rabies, or a dog affected with tetanus and one with rabies, that a few brief words on differential characteristics will be given.

Tetanus may be readily differentiated from rabies by the persistence of muscular cramps, especially of the neck and abdomen, which causes these muscles to become set and hard as wood. In tetanus there is also an absence of a depraved appetite or of a wilful propensity to hurt other animals or damage the surroundings. The general muscular contraction gives the animal a rigid appearance, and there is an absence of paralysis which marks the advanced stage of rabies. The dumb form of rabies in dogs is characterized by a paralysis and pendency of the lower jaw, while in tetanus the jaws are locked. This locking of the jaws in cattle or dogs renders the animals incapable of bellowing or barking as in rabies. Finally, tetanus may be distinguished from rabies by the fact that the central nervous system does not contain the infectious principle, while in rabies the inoculation of test animals with the brain or cord of a rabid animal will produce the disease with characteristic symptoms after an interval of 15 to 20 days. This period of incubation is much longer in tetanus, since the inoculation of rabbits with tetanus bacilli invariably results in death after a short period, usually within three or four days.

DISTRIBUTION AND PREVALENCE.—One must take with due reservation the statements of certain skeptics who claim that rabies either does not exist or is limited and is bound to remain so. Let these prophets be warned by the sad experience of their kind in the past. Let them remember that the theory that steam would or could displace the horse in traffic was hooted and jeered at—that Fulton's steamboat filled the old sailors with scorn—that wise men laughed at the first ironclad warships and the first telephone. Bacteriology and proto-zoology are not out of their swaddling clothes yet, and the professional man, if he be wise, will think well over the absolutely proved facts concerning rabies before he nails any prophecy to the mast. There is no intention of assuming the part of an alarmist with reference to the increasing prevalence of rabies. It cannot be denied, however, that there is at present unusual occasion for alarm in certain parts of this country which your committee considers of sufficient importance to bring to your notice. It may be true that many newspaper stories have been exaggerated or entirely false, but it is not true that all are fabrications. This is shown by a number of cases traced by the writer where the diagnosis had been made in reputable laboratories by recognized scientists.

In looking over the proceedings of the American Veterinary Medical Association for the past twelve years, it was observed that rabies is reported as existing in a certain number of states each year, although there has been no special endeavor on the part of the resident state secretaries to ascertain the extent of this particular disease in their sections. In 1897 the disease was reported in four states, in 1898 in five states, while in 1899 the statement of Huidekoper was cited by Parker to the effect that the disease was not west of the Rockies and was rare in the United States, except in Pennsylvania and Massachusetts. However, in the 1900 report we find that the disease had appeared in Montana, Wyoming and Colorado in addition to certain eastern and central western states. It is evident from the succeeding reports that the disease was becoming more widespread, and at the last meeting of this Association which was held in Philadelphia, of

the twenty resident state secretaries who reported, thirteen of them incidentally mentioned the existence of rabies in their states; and in Alabama, Connecticut, District of Columbia, Minnesota, Mississippi and Ohio the disease seemed to be on the increase. As there was no apparent reason for mentioning the presence or absence of this disease, the failure of the reports from the remaining seven states to refer to rabies should not be considered as indicative of its absence. In fact, your committee has written to officials in these seven states, and replies have been received from five of them to the effect that rabies had prevailed in their localities during 1908, thus showing that the disease existed in eighteen of the twenty states mentioned in the 1908 report. We have gone even further in our correspondence and have endeavored to find out if there is any state or territory in the United States where rabies is unknown. From the information at my disposal it would appear that the disease occurs in almost every state in the Union, and the only places where it has been impossible to obtain positive information were Idaho, Utah, Nevada, and Oregon; while in the state of Washington there has been but one outbreak, which was quickly suppressed seven years ago. It would be entirely impracticable without registration laws to obtain the extent of the disease among animals in the various infected sections, but the disease appears at times in certain centers with all the vigor of an enzootic, and such outbreaks have occurred recently in Jacksonville, Fla.; El Paso, Texas; Norfolk, Va.; Kansas City, Mo.; Boston, Mass.; Chicago, Ill.; Baltimore, Md.; Washington, D. C.; Cleveland, Ohio, and in certain sections of New York, Pennsylvania, Minnesota, Ohio, Missouri, and Michigan. Not only is there a gradual increase in the number of outbreaks of rabies, but many new centers which appear to be more or less permanent are being established from year to year. This is the first year when over 100 cases of rabies have been diagnosed in the Pathological Division, and of the positive cases 79 came from the District of Columbia, and 33 were divided among Virginia, Maryland, West Virginia, and South Carolina. In a letter from former State Veterinarian Langley, he states that Texas probably

has more rabies than any other state in the Union. Several years ago President Frank Wells, of the Michigan State Board of Health, made rabies largely the subject of his annual address and declared it was epidemic in Michigan. Vaughan who reported as a special committee on rabies, intimated that it had gradually spread from New York, where it had prevailed for a number of years previously, into Ohio and thence to Michigan, having been diffused throughout the lower peninsula of Michigan. In fact, the disease became so widespread and so many people were bitten that the state appropriated funds for the establishment of a Pasteur Institute in connection with the Medical Department of the University of Michigan. A Pasteur Institute was likewise established in April, 1908, in Washington, D. C., in connection with the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service, owing to the continued outbreak of rabies in that vicinity and the large number of people bitten by rabid animals, 139 persons being treated since its establishment. In addition, there are eleven other Pasteur institutes in the United States, located at Atlanta, Ga., Austin, Texas, Baltimore, Md., Chicago, Indianapolis, New Orleans, two in New York City, Pittsburg, Richmond, Va., and St. Louis. As an indication of both the distribution and prevalence of rabies among animals may be considered the number of persons who have been treated at these institutes. The directors of all the Pasteur institutes have been requested to furnish this information and the majority have responded. From these reports it is evident that several thousand people have been subjected to the Pasteur treatment recently, and hundreds receive the treatment every year as a result of bites inflicted by rabid animals. At the Pittsburg Institute, 1,022 persons from Canada, Ohio, Pennsylvania, New York, West Virginia and Colorado have received treatment as follows:

From December, 1900, to September, 1902, 76 cases.
From October, 1902, to October, 1904, 143 cases.
From October, 1904, to October, 1906, 185 cases.

From October, 1906, to October, 1905, 368 cases.
From October, 1908, to June, 1909, 250 cases.

The Texas Institute, under state control, has been established less than five years, but the number of persons who have applied for treatment has gradually increased from 81 in 1905 to 254 in 1906; 310 in 1907, and 353 in 1908; these patients coming from seven southwestern states and old Mexico.

At the St. Louis Institute, 381 persons have been treated, coming from eleven southern and central western states and from Mexico.

Since 1890 the Chicago Institute has treated 3,016 people, coming from thirty different states of the Union.

At the New York Institute (Rambaud's) 1,367 cases were treated between 1890 and 1900; 237 cases in 1900 and 1901, and 486 cases from October, 1904, to October, 1906.

Brawner of the Georgia Institute has treated 670 patients since 1900 with only two deaths. During this time all the people in Georgia bitten by rabid animals that did not take the treatment were recorded, and of the 120 bitten without subsequent treatment 29 developed hydrophobia. Rabies is said to be very much on the increase in that section and it is not uncommon for farmers to lose many horses, cows and hogs from the disease.

At the Baltimore Institute, 1,092 cases have been treated, 334 of which came from Maryland, 117 from North Carolina, 102 from Pennsylvania, 104 from Virginia, 112 from West Virginia, 57 from the District of Columbia, and the remainder from thirteen other states.

Since 1901 the Richmond Institute has treated 208 cases, coming from Virginia, North and South Carolina, and West Virginia.

As a further indication of the number of persons bitten, but who did not take the Pasteur treatment are the Census Reports showing the mortality statistics of rabies. In the census of 1900 when only about 40 per cent. of our population resided in districts where registration was observed, 123 deaths from rabies distributed in 28 states were reported. That this number was en-

tirely too low was shown by Salmon in 1900, who corresponded with a number of health officers within and without the registration district and collected 230 authentic cases of hydrophobia in man during this same interval in 73 cities. That the increase of rabies in animals which has been demonstrated bears a direct relation to the increase in the disease in man is shown by the vital statistics of the Census Bureau, as follows:

In 1903, 43 people died of rabies; in 1904, 38; in 1905, 44; 1906, 85; 1907, 75; 1908, 82. These deaths occurred only in the registration area of the United States, which now includes about 51 per cent. of the total population.

While the disease in certain foreign countries has at times appeared in the form of severe enzootics extending over considerable territory, in the course of the last decade the affection has decreased on the whole, and in some places has even disappeared entirely, owing to the rigid enforcement of muzzling and quarantine regulations. According to Hutyra and Marek, the disease in France is widely distributed all over the country. Since 1899 more than 2,000 cases of rabies have been reported each year, and in 1903 there were 2,391 rabid animals. In Germany during the years 1895 to 1898 the number of cases of rabies increased rapidly from 489 to 1,202. The number then decreased to 612 in 1902. These cases occurred mainly in the eastern and southern provinces bordering on the badly infected districts in Russia and Austria, while in the other parts of Germany only a few isolated outbreaks of the disease appeared. In Austria the disease has been on an increase since 1891, and in 1900 there were 1,187 cases reported. During this interval—from 1891 to 1900 4,974 people were bitten by rabid animals, 123, or 2.4 per cent., of whom died of hydrophobia. In 1903 the number of people bitten by mad dogs varied from 11 to 42 weekly. In Hungary there was a momentous decrease in rabies following the passage of the veterinary sanitary law of 1888, but since 1893, when there were 883 cases, outbreaks have been gradually increasing, and in 1903 2,040 rabid animals were reported. The disease is most common in Russia, and it also appears very fre-

quently in Roumania, Servia and Bulgaria. In Turkey, despite the large number of dogs, the disease does not increase much, which is explained by Remlinger from the fact that the affection generally appears in the form of dumb rabies. In 1903 only 35 rabid animals were reported in Belgium, 25 in Holland, 18 in Switzerland and 376 in Italy. Spain has had more frequent outbreaks of the disease, while Denmark, Sweden, and especially Norway and Great Britain, have been free from the contagion for several years, owing to the wise provision that all dogs running at large shall be muzzled. The Islands of Australia, Tasmania, New Zealand, St. Helena, and the Azores have never become infected with rabies, and the first three prevent its appearance by rigid inspection and quarantine. In 1905 Rutherford reported the disease to be spreading in Canada, and in 1908 Dudley made a similar statement for the Philippine Islands, where the malady had been found to exist in thirty-nine provinces. The latter recommends the establishment of a Pasteur Institute in the Islands. That rabies is increasing in Mexico is shown by the report of the Pasteur Institute in the City of Mexico.

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Colt Calls Aid to Its Mother Stuck in Mud.—On August 28, at Pleasant Hill, Mo., a pretty Shetland colt attracted the attention of a crowd at a baseball game here when it approached the bleachers from the direction of a creek 200 yards beyond first base. The Shetland baby appeared to be in trouble. Various persons on the lines fondled the colt, and presently it turned and retraced its way to the creek. At the edge of the creek bluff it paused but for an instant, and after looking intently over the brink, it wheeled about once more and returned to the right field bleachers. Walker Brannock and Lloyd McKee noticed the unusual actions of the colt, and when it once more turned and started for the creek they followed. The mystery was explained when they looked over the bluff, for there, mired in the deep mud and with her head barely out of the water, was the little bay mother of the Shetland colt. Other persons were summoned to the scene, and willing hands soon delivered the little mare from her predicament.—*Home Topics,* Sept. 11, 1909.

# EQUINE INFECTIOUS ANEMIA.*

By A. T. Kinsley, M.Sc., D.V.S., Kansas City, Missouri.

During the last few years the attention of veterinarians and sanitary boards in North America has been attracted by the reports of an unknown disease in horses and mules. This disease or very closely related diseases, prevails in various states of the United States, in some of the provinces of Canada and in Europe. The disease has been designated by a variety of names, as "swamp fever," "pernicious anemia," "malarial fever," "Spanish fever," "river bottom disease," "loin distemper," etc. The disease will be designated "Equine Infectious Anemia" in this description, because it is confined to the equine genus, is infectious, and is a specific blood disease.

The writer's attention was first called to the disease in the fall of 1902 by a veterinarian at Vinita, I. T. (Oklahoma). The data of this paper has been obtained by correspondence with sixty different veterinarians practicing in the various localities where the disease was known to be prevailing, and by field investigation of about fifty different cases, in various stages of the disease, in northeastern Oklahoma and southeastern Kansas.

Equine infectious anemia is characterized by extensive blood changes, by variations in the severity of the attack by irregularity of course, and is accompanied by typical symptoms of anemia.

The causative factor of this disease is a filterable virus which is apparently confined to the blood of the affected animals. It is probable that the virus is a lower form of animal life. Its source and life history are unknown. The infection, in many instances, seems to remain on a farm or in a barn indefinitely. It is usually not readily carried to adjacent farms or other barns. A farm near Coffeyville, Kansas, has been infected for twelve or four-

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teen years, and the owner has lost horses with this disease nearly every year during that time, while a neighbor living not more than sixty rods diagonally across a thoroughfare has never had a case. Another man living fourteen miles northeast of Coffeyville lost five horses with this disease during the winter of 1907-8, and the following summer a farm hand kept his pony in the same barn for three or four weeks and it became affected and died.

The manner of natural infection is not known. Many theories have been proposed as to the source of the virus and the manner of infection. Some hold that the virus passes a part of its life history on prairie grass and the animal becomes infected by eating the grass or new hay; others hold that it is obtained from spring water, etc. The disease has been transferred from infected animals to healthy susceptible animals by blood inoculation. Flies and mosquitoes appear to have no relation to the transmission of the disease, as a single case may occur in a large barn where flies and mosquitoes swarm indiscriminately from the diseased to the healthy horses. Several instances were observed in which one of a double team of horses had become infected and the other remained normal, though these horses were watered from the same pail and fed in the same trough and had not, to the owner's knowledge, been separated. Colts appear to suckle affected mares with impunity. In other instances, suckling colts become affected although the mares remain healthy.

Horses and mules are about equally susceptible to this disease. Two cases were observed in suckling colts, and one case in a twenty-year-old horse; it was observed in thoroughbred and trotters, saddlers, French coach, draft horses, and Indian ponies; consequently, age and breed appear to have little influence over susceptibility. Food appears to have no causal relation to the disease as it affects equally as many horses that are constantly fed on dry feed as of those which run in pastures. This disease occurs regardless of the source of water. (Although Dr. Robinson, of Independence, Kansas, believes that the disease had its origin from spring water, and in corroboration of this statement, sev-

eral horsemen in that vicinity named a pasture in which they claimed there are several infected springs, and that a large per cent. of equines that drink from these springs become infected.)

The initial attack of this disease usually occurs during July, August and September, though many cases have been observed both earlier and later than this. The disease is most prevalent in the summer months; however, chronic cases may be seen in midwinter. The disease is more prevalent during wet seasons and is equally prevalent on uplands and lowlands. The Verdigris river overflows almost every lear, yet there are no more cases in proportion on the overflowed river bottoms than there is on the uplands fourteen or sixteen miles from the river.

The disease may appear suddenly or it may have an insidious onset, there being some lack of spirits or other evidence for a week or even a month before the disease is actually recognizable. In those cases in which the disease appears suddenly the affected animal has a very dejected appearance. The temperature varies from 104° to 107° F.; and if the animals are not treated, the high temperature continues for from three to eight days with slight variations. Respiration is usually accelerated, the increased rate being in proportion to the temperature. The cardio-vascular variations are the most constant and characteristic symptoms of this disease; the first impression of the pulse, in practically every case, is that it is wiry, though on closer examination it is found to be full, but it is compressible and feels streamy, *i. e.*, the principal pulse wave is followed by a secondary streaming flow of smaller volume—an anemic pulse. The pulse rate varies from 60 to 90, depending upon the severity of the attack. On examination of the heart there is noted an indistinct murmur typical of anemia. There is invariably a jugular pulse which becomes more and more marked as the disease advances. The animals are quite weak, in some instances they stagger when walking. The visible mucous membranes are at first blanched, but later they assume a dirty yellow color. The ocular mucous membrane usually contains petechial hemorrhages varying in size from a mere point to irregular areas the diameter of a lead

pencil. All sphincter muscles are relaxed. The anus frequently is opened to such an extent that it is necessary to insert a thermometer far into the rectum to obtain the body temperature. There may be frequent urination, and in the later stages of the disease there may be constant dribbling of urine, because of the relaxation of the cystic sphincter. As the disease progresses the animals become extremely emaciated, and there may or may not be œdema of the dependent parts. In the later stages the animals always become very weak, although they may eat ravenously until they die. In some instances the animal appears to suffer considerably in the beginning. One not familiar with this disease gives a diagnosis of colic in the earlier stages of these cases, for the affected animal is very restless, rolling and groaning, and while standing, constantly shifting from one foot to the other, this latter being especially marked in the posterior limbs. An occasional case is observed in which there is epistaxis.

The premonitory symptoms of those cases having an insidious onset consist of a general dejected appearance and the affected animals fatigue easily. After the onset the symptoms are the same as described above except that they are less intense.

The chronic type is usually secondary to the acute, and is probably more frequent in those cases in which the disease had an insidious onset. In the chronic form the attack may be continuous or it may be periodic. When the attack is continuous the general indications of the disease are emaciation, weakness, œdema of dependent parts of varying extent and a worn-out appearance. The animals affected with the chronic type always eat heartily. On inspection, the mucous membranes are found to be dirty white or pale yellow in color, and there may be a rise of from one to three degrees in temperature. The respiration is accelerated, and the pulse is of the characteristic anemic type. There is always a marked jugular pulse, and a typical anemic heart murmur. The submaxillary lymph nodes are usually enlarged. The symptoms are practically the same during the attacks of the periodic type as described in the acute cases. During the intermissions the animals are dull and fatigue easily, al-

though their appetite is good and they apparently digest all the food they consume. There is usually more or less weakness in the posterior limbs, which in some instances becomes so marked that the animals fall when turned quickly. Those animals affected with the chronic type are always emaciated.

There are usually some cutaneous wounds found on post-mortem examination caused by the animals falling against fences or even to the ground. The blood is thin, pale and water like, and separates as it coagulates. The cutaneous lymph glands are usually slightly enlarged and contain coagulated lymph. There is more or less œdema in the subcutaneous structures of the dependent parts in the chronic cases. Oedema is usually absent in the carcasses that have died of the acute type of the disease. Voluntary muscles are pale and soft, *i. e.*, they have a typical parboiled appearance. The serous membranes are pale, flakes of coagulated lymph are deposited upon them, and many petechial hemorrhages are noted in the subserous structures. The peritoneal, pleural, and pericardial cavities usually contain a considerable quantity of a thin limpid fluid. The subserosa, particularly of the small intestine, contains many petechial hemorrhages. The visceral organs are anemic, the digestive tract always contains a considerable quantity of food stuff, especially in chronic cases. The liver, though usually normal in size, is icteric, the intensity depending upon the chronicity of the case. The spleen is about normal in size in the acute cases, though it is darker in color and softer in consistency; in chronic cases it is enlarged and more or less indurated. The kidneys are anemic and friable, and it is not uncommon to find infarcts in their cortex. The bladder is usually empty because of the relaxed sphincter vesicæ. The mesenteric lymph nodes are enlarged and intensely hyperæmic, hemorrhagic and frequently contain necrotic food. The sublumbar lymph nodes are less intensely congested though they may contain more or less of coagulated lymph both in the glandular structure and beneath the capsule. The deep and superficial inguinal glands may be hyperæmic, and are invariably slightly enlarged and œdematous. The lungs are usually œde-

matous, and contain many petechial hemorrhages in the subpleura. The bronchial, tracheal and mediastinal lymph nodes are usually enlarged and œdematous. The heart is pale, friable, and contains sub-pericardial and endocardial hemorrhages; it is always enlarged in chronic cases and may contain infarcts. The cerebral and spinal meninges are usually anemic though their veins may be gorged with blood. The brain and cord is anemic, soft and usually contains petechial hemorrhages beneath the piameter. The red bone marrow is dark in color, the yellow marrow is gelatinous in consistency.

Tissues examined microscopically were all obtained within two hours after death. The tissues were fixed in formalin, embedded in collodion, sectioned and stained with hematoxylin and eosin, hematoxylin and picro-fuchsin or hematoxylin alone. Blood smears were stained with Wright's stain, hematoxylin and eosin, methylene blue and eosin. The blood was obtained from the jugular vein.

The most characteristic microscopic lesions were found in the blood. The hemoglobin content, which according to the Tallquist scale ranges from ninety to one hundred per cent. in normal equines, varied from ten per cent. to eighty-five per cent. in the affected animals. The red blood corpuscles varied from 1,006,400 per cmm. to 6,800,000 per cmm. The red blood corpuscles vary in size, there being some very small (microcytes) and some excessively large (megalocytes); they are also variable in shape (poikilocytes); and occasionally a nucleated cell (erythroblast) is observed. The changes occurring in the white blood corpuscles are somewhat variable. The one principal change is the increased proportion of polymorphs as is shown by the following table:

PER CENT. OF VARIETIES OF LEUCOCYTES.

| Breed and Sex. | Age. | Haemoglobin. | Red Blood Corpuscles Per cmm. | White Blood Corpuscles Per cmm. | Lymphocytes. | Large Mononuclears. | Polymorphonuclears. | Eosinophilics. | Mast Cells. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| Draft, Mare..... | 6 | 80 | 6,000,000 | 8,400 | 13 | 6 | 80 | 1 | .. | June 30, temperature 105, ocular, petechial. |
| Draft, Mare..... | 6 | 85 | 6,400,000 | 8,600 | 18 | 10 | 72 | .. | .. | July 1, temperature 103. |
| Draft, Mare..... | 6 | 85 | 6,720,000 | 8,600 | 16 | 12 | 70 | 2 | .. | July 2, temperature 101. |
| Draft, Mare..... | 6 | 88 | 6,800,000 | 8,570 | 19 | 14 | 66 | 1 | .. | July 4, temperature 100.5. |
| Driver, Gelding.... | 20 | 35 | 2,300,000 | 10,000 | 9 | 2 | 88 | 1 | .. | July 3, temperature 105, ocular, petechial. |
| Driver, Gelding.... | 20 | 35 | 2,400,000 | 8,000 | 11 | 3 | 85 | 1 | .. | July 4, temperature 105, ocular, petechial. |
| Driver, Gelding.... | 20 | 40 | 2,800,000 | 10,000 | 7 | 3 | 90 | .. | .. | July 5, temperature 104, not eating. |
| Driver, Gelding.... | 20 | 40 | 2,400,000 | 9,200 | 6 | 4 | 89 | 1 | .. | July 6, temperature 102.5, polyuria. |
| Driver, Gelding.... | 20 | 40 | 2,000,000 | 8,200 | 6 | 2 | 92 | .. | .. | July 7, temperature 101, began to eat. |
| Driver, Gelding.... | 20 | 40 | 2,000,000 | 8,600 | 5 | 2 | 92 | 1 | .. | July , horse died 11.30 p. m. |
| Trotter, Gelding... | 1 | 70 | 4,500,000 | 10,000 | 4 | 10 | 85 | 1 | .. | July 4, temperature 106, inappetence. |
| Trotter, Gelding... | 1 | 75 | 5,200,000 | 11,000 | 7 | 10 | 82 | 1 | .. | July 5, temperature 105, inappetence. |
| Trotter, Gelding... | 1 | 80 | 6,000,000 | 12,000 | 9 | 12 | 78 | 1 | .. | July 6, temperature 103, began to eat. |
| Trotter, [illegible]ding... | 1 | 85 | 6,400,000 | 12,000 | 12 | 12 | 74 | 2 | .. | July 7, temperature 102, polyuria. |
| Trotter, Gelding... | 1 | 85 | 6,520,000 | 13,000 | 13 | 14 | 72 | 1 | .. | July 8, temperature 102, good appetite. |
| Trotter, Gelding... | 1 | 85 | 6,400,000 | 13,000 | 15 | 14 | 70 | 1 | .. | July 9, temperature 101.5, good appetite. |
| Trotter, Gelding... | 1 | 88 | 6,720,000 | 13,200 | 19 | 16 | 64 | 1 | .. | July 10, temperature 101.5, good appetite. |
| Trotter, Gelding... | 1 | 90 | 6,800,000 | 14,000 | 19 | 18 | 62 | 1 | .. | July 14, temperature 101.2, good appetite. |
| Roadster ..... | 5 | 30 | 1,520,000 | 8,000 | 3 | 10 | 87 | .. | .. | July 17, temperature 101.8, chronic. |
| Roadster, Gelding.. | 5 | 25 | 1,740,000 | 7,600 | 5 | 4 | 89 | .. | 2 | July 18, temperature 103.5, marked jugular pulse. |
| Roadster, Gelding.. | 5 | 10 | 1,006,400 | 3,200 | 9 | 3 | 88 | .. | .. | July 19, blood taken just before death. |
| Cob ..... | 11 | 70 | ..... | ..... | 10 | 5 | 85 | .. | .. | July 19, temperature 104. |
| Cob, Gelding..... | 11 | 80 | 5,120,000 | 12,000 | 9 | 10 | 80 | 1 | .. | July 22, anus too relaxed to get temperature; polyuria. |
| Cob, Gelding..... | 11 | 80 | 5,800,000 | 8,500 | 12 | 7 | 80 | 1 | .. | July 23, polyuria. |
| Cob, Gelding..... | 11 | 85 | 5,800,000 | 10,800 | 13 | 7 | 76 | 4 | .. | July 24. |
| Cob, Gelding..... | 11 | 85 | 6,000,000 | 12,000 | 14 | 6 | 78 | 2 | .. | July 25. |
| Cob, Gelding..... | 11 | 88 | 6,200,000 | 12,000 | 24 | 10 | 64 | 2 | .. | July 26. |
| Roadster, Mare.... | 3 | 90 | 6,640,000 | 12,000 | 17 | 3 | 79 | 1 | .. | July 20, very acute; acted like colic. |
| Roadster, Mare.... | 3 | 85 | 5,040,000 | 10,200 | 13 | 6 | 80 | 1 | .. | July 21, very acute. |
| Roadster, Mare.... | 3 | 88 | 6,400,000 | 12,000 | 18 | 12 | 69 | 1 | .. | July 22. |
| Standard, Stallion.. | 4 | 55 | 2,080,000 | 10,000 | 8 | 5 | 75 | 12 | .. | July 22, chronic case. |
| Standard, Stallion.. | 4 | 60 | 2,360,000 | 10,000 | 4 | 4 | 83 | 9 | .. | July 23, temperature 101.5. |
| Standard, Stallion.. | 4 | 58 | 2,800,000 | 9,800 | 7 | 4 | 80 | 9 | .. | July 24, temperature 101.5. |
| Standard, Stallion.. | 4 | 60 | 3,160,000 | 9,300 | 8 | 2 | 84 | 6 | .. | July 25, temperature 101.5. |
| Standard Stallion.. | 4 | 55 | 2,800,000 | 7,100 | 6 | 6 | 82 | 6 | .. | July 26, temperature 101.5. |

The muscular and granular tissues are affected with parenchymatous degeneration. Petechial hemorrhages occur in the various tissues, but especially beneath serous membranes. Pigmentation with hemoglobin and its derivatives is prevalent in practically all tissues especially the liver, spleen, and heart, and if the case is of long standing, the tissues in which petechial hemorrhage occurs are also intensely pigmented. The liver cells are extensively disintegrated. The central portion of the liver lobules are infiltrated with leucocytes, and the liver cells and intercellular spaces contain pigmentary deposits in those cases that have died of the acute type of the disease. In the chronic type the principal hepatic lesion consists of fibrous hyperplasia and pigmentation. The spleen contains an excess of blood in the early stages and the splenic corpuscles are practically obliterated: cell fragments and detritus are found mingled with the splenic pulp in the later stages of the acute type, but when the disease has become chronic there is a limited sclerosis throughout the entire splenic tissue.

The principal diagnostic symptoms of acute infectious anemia are: High temperature, increased respiration, anemic pulse, anemic cardiac murmur, jugular pulse, petechial or muddy appearance of the conjunctiva, relaxation of the sphincter muscles, enlargement of the submaxillary lymph nodes, and general depression. The location and history must also be given due credit. The hemoglobin test is of considerable value and a complete blood examination alone gives positive evidence of anemia. Blood inoculation is the only positive method of diagnosis of this disease, although due consideration of the history and symptoms usually give sufficient evidence for diagnosis.

The principal diagnostic features of the chronic type are: Emaciation, though affected animals usually have a good appetite and apparently digest and assimilate all food eaten; circulatory disturbances of the same character, but more intense than in the acute type; muddy appearance of all visible mucous membranes; relaxed sphincter muscles; general weakness, especially marked in the posterior limbs. The hemoglobin will be found to vary from

ten to seventy per cent. The red blood corpuscles may be diminished to 1,000,000 per cmm. There will be poikilocytosis, many mycrocytes and macrocytes will be observed, and there may be an occasional nucleated red blood cell. The percentage of polynymph leucocytes are increased.

The prognosis should be guarded. Most practitioners report about fifty per cent. mortality, but if the horses were treated according to the veterinarian's direction it is doubtful if the mortality would be more than twenty-five per cent. Drs. Francis and Marsteller, of Texas, have issued a bulletin in which they hold that an animal that has had the disease is always infectious. This statement needs further experimental support.

In the treatment of the disease the affected animals should be kept absolutely at rest, they should not even be led out of their stalls to the watering trough. Sunshine has a decided injurious effect upon the diseased animals; they should be kept in a comfortable stall.

In the acute type the temperature should be diminished by cold baths. Water may be safely and conveniently applied with a hose. When water is not available for a bath, frequent rectal injections of cool water should be resorted to. Stimulants should be given, the dosage depending upon the requirement of the case. Arsenic appears to be a very reliable agent in this disase. It is usually given as Fowler's solution, the dosage varying somewhat, though generally speaking, large doses should be given. Any ordinary adult horse should receive from two to three ounces of Fowler's solution daily until the temperature becomes normal. Tonics should be prescribed for at least two weeks after the animal has apparently returned to normal. In the chronic form, the temperature should be kept as near normal as possible by baths or rectal injections. Stimulants should be given at least three times daily, conjoined with Fowler's solution, giving of the latter not less than two ounces daily. The Fowler solution may be suspended for a day or two if there are signs of arsenical poisoning. This line of treatment continued for from four to six weeks

apparently completely destroys the causative agent of the disease, or, at least, the animals recover.

In conclusion I wish to thank and give due credit to those who so kindly and promptly answered all correspondence in reference to this disease, and, especially, to acknowledge the hospitality of Dr. C. R. Walter, Tulsa, Okla.; Dr. E. M. Bates, of Coffeyville, Kansas, and Dr. B. A. Robinson, of Independence, Kansas, who did everything in their power to assist in the field investigation.

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EVERY veterinarian should keep a fresh copy of the REVIEW before him every day. It is an indispensable work to all progressive veterinarians.—GEO. H. BELAIRE.

TERRIER HAS TAKEN 20,000 MILE JAUNT.—A wonderful record as a traveler has been achieved by Dash, the smooth-haired fox terrier which accompanied Dr. M. A. Stein, an archæological explorer, throughout his great journey of ten thousand miles, undertaken on behalf of the Indian government, through Central Asia into China and back, says the *London Daily Mail*. Though the aggregate of the marches amounted roughly to ten thousand miles in two years and eight months, the actual distance covered by Dash, taking into account his canine habits of progression, may be estimated at well over twenty thousand miles. Dash made that journey on foot practically the whole way, except when he went "pony back" for short distances at times of great heat. When in the Taklamakan desert Dash, like the rest of his party, had his water allowance strictly limited. It came from the supply carried on camels in the form of ice. Dash went over mountain passes as high as 16,000 feet above the sea level. Throughout the journey the dog kept well, and his menu was made up of scraps from the camp larder. Each night he slept in Dr. Stein's tent, and on occasions proved himself a very useful watchdog. On the high Tibetan uplands his chief recreation was chasing wild donkeys, yaks and the like. He managed to kill several hares and bring them in to supplement the store of food. Upon many journeys along the Indian northwest frontier Dash has also been the comrades of his master, and he has probably seen far more of the world than most people. He has true British terrier blood in his veins, although India was his birthplace. The dog is now in quarantine after having come from India.—*N. Y. Herald*, Sept. 11, 1909.

# INFECTIOUS DISEASES FROM THE VETERINARY INSPECTOR'S POINT OF VIEW.*

By L. Enos Day, Chicago, Ill.

The fact that certain diseases affecting man are also found in meat-producing animals, and the accepted belief that under certain conditions they may be transmitted from such animals to man through the food supply makes the duties of the veterinary inspector of paramount importance from an hygienic point of view.

The inhabitants of the United States rank second in meat consumption among the civilized nations, our consumption being about 180 pounds per capita, or about 14,116,886,000 pounds per annum. With a population whose gastronomic tastes are so decidedly animal it will readily be seen that if animals suffering from infectious diseases were slaughtered and their flesh sold for food, the health of our country would be in great danger.

The greatest number, and at the same time the most important diseases of food animals, from a veterinary inspector's point of view, belong to the infectious diseases. According to the report of the Chief of the Bureau of Animal Industry, for the years 1900 to 1907, the number of carcasses condemned for infectious diseases far exceed those condemned for all other causes. This being the case, these diseases are of great importance to the veterinary inspector, it being his duty to carefully inspect and pass on all of the animals slaughtered, with reference to the soundness and wholesomeness of the meat and meat food products.

Owing to the extreme virulent nature of most of the microorganisms which produce highly infectious diseases in food producing animals they are capable of partially or completely destroying large herds of animals in a few weeks, but it is very gratifying for us to know that in many cases they are only slightly, or not at all, pathogenic to man; in this respect we are indeed very fortunate.

*Presented at the Forty-sixth Annual Meeting of the A. V. M. A., at Chicago, Sept. 7th, 8th, 9th and 10th, in connection with the report of the Committee on Diseases.

We are indebted to Robert Koch for devising a way by which bacteria can be separated, cultivated in pure culture and studied, and to Brieger for calling attention to the chemistry of bacteria and indicating the method by which it is possible to isolate the poisons (toxins) which they produce. The chemistry of bacteria is very important to the veterinary inspector, since it makes him acquainted with the fact that bacteria, although of themselves are unable to produce an infection in man, are, however, capable of becoming injurious to man through the toxins produced by them. Brieger also shows that although pathogenic bacteria were destroyed by high degrees of temperature, only a very small per cent. of the toxins which they produce are destroyed by heat.

As before stated, the greatest number of food animals condemned at official establishments where inspection is maintained, were rejected on account of being infected with an infectious disease. During the year 1907 the total number of carcasses condemned for all causes at such establishments were 27,933 cattle, 105,879 hogs, and 9,524 sheep. Of this number, 19,305 carcasses of cattle, 65,618 hogs were condemned for tuberculosis. Tuberculosis being very rare in sheep, no carcasses were condemned for this disease during the year.

For a number of years much has been written both in America and Europe concerning tuberculosis. These various articles have dealt with the disease fro mall of its various phases both in animals and man. As so much has already been written on this subject, especially within the past two years, and since tuberculosis from various points of view was treated in a very thorough manner by the several members of the Committee on Diseases last year, it seems to me that it will be well to omit a discussion on the subject of tuberculosis in this paper. To discuss all of the other various infectious diseases would occupy too much time, therefore I will confine myself very briefly to septicæmia. Aside from tuberculosis, the most dangerous disease which confronts the veterinary inspector in his daily work from an hygienic point of view is the various forms of septicæmia. The great

danger associated with these conditions does not depend so much upon the liability of the organisms multiplying in the tissue of the consumer and producing lesions similar to those produced in the animal before it was slaughtered, but in the toxins which are contained in the meat of such animals. The toxins and toxalbumins which are present in the meat from animals which are suffering from sepsis before slaughter often produce a series of symptoms in man to which the term meat poisoning has been applied.

Septicæmia in this connection includes all of those hemolytic diseases of sepsis which are caused by the entrance of pathogenic organisms or their products into the blood or by the combination of both.

Ostertag states that no other disease possessess such importance for meat inspection as the various forms of sepsis. Furthermore, he regards the flesh of animals affected with septicæmia as the most dangerous of all the diseases of food animals.

On post-mortem examination there are usually no very extensive lesions of theinternal organs by which one can make a diagnosis. The heart, kidneys and liver are usually slightly swollen and cloudy, in some cases the skeletal muscles are slightly pale. In very advanced cases a slightly sour odor will be noticed at the time of evicerating. Rigor mortis is retarded and in very advanced cases does not take place.

With reference to the reaction of meat, Bugge, Director of the Government Laboratory in the Province of Schleswig-Holstein, reports that the reaction of bacteria free meat is usually acid soon after slaughter. In eight of 116 cases it is neutral or weakly acid, in one neutral to slightly alkaline, and in three cases was at first alkaline, becoming acid after twenty-four hours. Muscular tissue containing micro-organisms also had an acid reaction though in a few isolated cases it was alkaline. In meat containing large quantities of enteritis bacteria the reaction was distinctly acid.

The muscles of the above 116 cases were also examined for

bacteria, micro-organisms were found in 22 cases. The meat came from the following sourec: 92 oxen, 7 calves and 7 swine.

The following diseases should be considered as special forms of septicæmia: Polyarthritis of calves, hemorrhagic enteritis of calves, septic metritis, septic enteritis of cattle, and septic mammary diseases in cows.

Bugge examined the muscles of 17 cows which were affected with metritis when slaughtered, and found bacteria present in seven cases, he also examined the muscles of two calves which were suffering from diarrheas and from bacteria present in both cases.

Ostertag reports forty outbreaks of meat poisoning in Germany and Belgium during a period of about twenty years previous to 1898. In these forty outbreaks more than 2,000 people fell victims to the malady. In each case the cause of the outbreak was traced to the consumption of meat from animals either in a dying condition or suffering from some form of sepsis at the time of slaughter.

In 1888 Gartner isolated a pathogenic bacillus from the fresh meat and spleen of a cow which had been slaughtered in extremis on account of acute enteritis. He also isolated the same organism from the spleens of men who had died from meat poisoning. This organism produces a strong poison which is very resistant, and is not even destroyed at the temperature of boiling water. Toxins prepared in artificial culture in the laboratory produce in suitable animals and in men the same symptoms as the infected meat. It seems that most of the cases of meat poisoning reported in the past decade where a bacteriological investigation was made, the organisms which were found either belong to the "Gartner" enteritides bacillus or the paratyphoid group. Some cases are on record where staphylococcus pyogenes flavus was the cause.

Owing to the chemical composition of meat it offers not only a very suitable nutrient media for putrefactive bacteria, but also for pathogenic micro-organisms. Bearing this point in mind the sanitary condition and water supply should be good in places where meat food products are prepared or stored.

# CORRESPONDENCE.

STATE VETERINARIAN'S OFFICE,
CLEMSON COLLEGE, S. C., September 20, 1909.

*Editors* AMERICAN VETERINARY REVIEW, New York City.

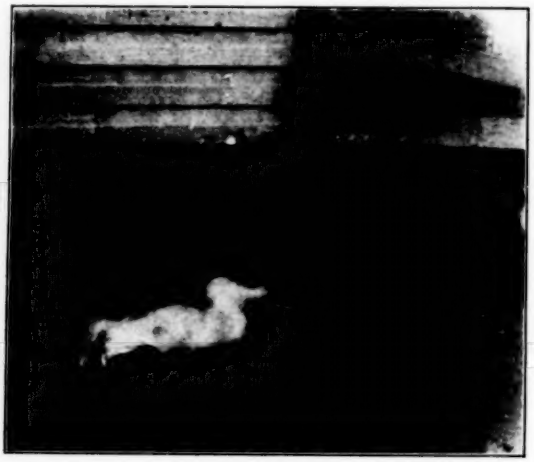
*Dear Sirs:* Enclosed herewith are photographs of a rather peculiar case which was brought to the Clemson Agricultural College Veterinary Hospital for treatment. I have not been able to form a diagnosis and would like to hear from others who may have had similar cases.

This dog (about 11 months of age) was in perfect health until about two weeks before admission to the hospital. After a day's work in the field, the owner noticed that the dog experienced difficulty in getting on its feet. After a few attempts, however, the dog got up and appeared perfectly normal. This difficulty in rising was the only symptom noticed until two days before the dog was presented for treatment. At that time the animal assumed the position shown in Cut I. and refused all food.

The head was carefully examined, but no evidences of injury could be found. There was a complete loss of sight in the right eye. Temperature and respiration were normal and the dog was apparently perfectly conscious, as it responded to the own-

er's voice by wagging the tail and attempting to follow him. When placed in any other position than the one assumed in Cut I. the dog would struggle until the position was regained.

On the following day the animal began to roll to the right



continuously, being unable to stop even when in a corner or against the wall. See Cut II.

Chloral hydrate was administered (per rectum) and the dog was kept under its influence for three days. At the end of this

time the animal was able to brace itself against the wall sufficiently to prevent rolling (see Cut III.), but when moved would roll until the wall was again reached. See Cut III.

For five days the animal refused food and was drenched with milk, eggs and brandy. Purgatives and enemas were given and tincture of nux vomica was administered daily in gradually increasing doses (beginning with 5 M., the dose was gradually increased to 18 M. daily. When nervousness was noticed the drug was discontinued and a purgative given). As soon as the appetite returned potassium iodide in 4 grain doses was given every two or three days.

At the end of three weeks the dog was able to walk and was discharged from the hospital with instructions to the owner to continue the daily administration of tincture of nux vomica in 8 M. doses. The owner has since reported that this treatment was continued for two weeks after the animal was discharged, and that the dog is now apparently well (with exception of loss of sight in right eye) and is doing good work in the field.

Very respectfully,

M. RAY POWERS,

State Veterinarian.

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COW'S TEETH BRUSHED; BETTER BUTTER RESULTS.—One-piece suits for his cows and their teeth cleaned three times every day is the new departure in dairy farming established by W. Kelsey Schoepf, who is interested in the street railroads of Philadelphia, and who spends much of his time in the Quaker City. Mr. Schoepf's farm is located in Glendale, a suburb of Cincinnati, and two farmers whose sole duties are to care for the magnate's $75,000 herd of full-blooded Jerseys each morning, place the coats on the twenty-four bovines. The garments are cream-colored, and are of the one-piece variety now in style. They are designed to keep the flies off the bossies during the day. Farmer Schoepf has always been of the opinion that if cows' teeth were cleaned better health and better milk would result. In exchange for these acts of kindness each cow during the past two days while the departures were tried out produced over two gallons of real pure milk. When this was reported, Mr. Schoepf ordered that the innovation be a permanent feature of farm life. Mr. Schoepf's friends in Philadelphia were sent samples of the butter produced from the milk from the cows whose teeth are cleaned three times a day with a regular tooth brush. The farm produces ninety pounds of butter, each week, which is sold to neighbors. Mr. Schoepf's town houses here and in New York are both supplied and the surplus products find a ready market in the vicinity of the farm.—*New York World.*

# ABSTRACTS FROM EXCHANGES.

## ENGLISH REVIEW.

By Prof. A. Liautard, M. D., V. M.

The Use of Iodine in Pneumonia [*Major A. C. Newsom, A. V. C.*].—To test this form of treatment which had been seen recommended in some papers by the author, forty animals were submitted to a routine treatment as follows: "The iodine was administered in dose of one drachm bolus twice a day from the time the diagnosis had been established until convalescence set in, or symptoms of iodism appeared. Where the condition suggested the necessity, ether in drachm doses was given hypodermically." In seven cases symptoms of iodism were manifested by diminished appetite, disinclination to drink, skin eruption and muco-purulent discharge from the eyes. Iodine was stopped, but in all the other cases, it was given till convalescence took place. In one case only was iodism noticed after six days of administration of the drug. But in another it took 23 days and again in another 30 days without any bad effects being observed. It seems justifiable in the presence of such results to conclude that iodine is well tolerated and can be given in drachm doses without fear. Of the forty animals treated by this method, only four died; these had all double pneumonia complicated with pleurisy.—(*Journ. of Comp. Pathol. and Therap.*)

Note on a Case of Chloroma in a Pig [*J. Robertson, M. D. M. O. H.*].—This was observed on the carcass of a pig. The split body presented a remarkable aspect on account of a bright pea green coloration. There were patches, which were irregularly distributed over the vertebræ; the coloration being in the marrow of the spongy parts of the bones. Similar patches existed also on the ribs, on other bones, and on the connective tissue in the abdomen and in the thoracic cavity, where they formed small masses. One of these was on the surface of a piece of one kidney.

It was intimately attached to the connective tissue of the kidney and in structure it had the typical aspect of lymphoma. Clots of blood showed an enormous increase in the number of the leucocytes. All the other organs of the animal were otherwise sound. The tumors found are considered by pathologists as lymphosarcomas.—(*Journ. of Comp. Pathol, and Therap.*)

Anthrax Bacilli in Milk [*Sir John McFadyean*].—In examining, on three occasions, milk sent to him which had been drawn from cows that died with anthrax, bacilli were found in all the three samples in such a large number that they could be readily discovered with the examination on the microscope, with an ordinary stained cover glass preparation. From this, however, one must not consider that great danger exists for the public, as after all the danger is not in reality so great, and besides the restrictions embodied in the Anthrax Order are sufficient to prevent any infection to occur in human beings by the consumption of milk: but yet the writer suggests that some precautions ought to be taken in connection with the milk in general when an outbreak of anthrax occurs among cows. It is only necessary to see that for a week or ten days after the last preceding case, the temperatures of all the cows are taken before each milking and that all milk obtained from any cow having a temperature superior to the normal be withheld; and of course, specially if she presents any of the symptoms of anthrax. The balance of the requirements are all provided by the Anthrax Order.—(*Journ. of Comp. Pathol. and Therap.*)

Onion Poisoning in Cattle [*W. W. Goldsmith, M. R. C. V. S.*].—Loads of onions partly started to shoot and partly decayed are put down in a meadow where nine head of cattle are at grass. After a week cattle got sick, and one died. The symptoms observed are: Intense smell of onion, tucking up of the flanks ,constipation in some, purging freely in others, one vomited abundantly. One animal quite sick had a grunt, was much constipated, staggered in walking and was very tender on the loins. Temperature 103°: urine dark and smelling of onions. Treatment: Feeding with soft food and hay. Large doses of linseed oil. One animal that was very ill got also extract of belladonna and carbonate of soda. All but one of the animals recovered. At the autopsy of the dead one, the rumen was found inflamed and also the bowels. Liver enlarged and of light color. Kidneys dark

green and with offensive odor. Rumen contained large quantity of onions and grass. The whole carcass and organs smell of onions.—(*Ibidem.*)

NOTES ON SOURED MILK TREATMENT IN DOGS [*T. F. Prime, M. R. C. V. S.*].—A bulldog 10 years old has had diarrhea at various intervals. This condition alternating now and then with constipation. The animal has lost flesh and strength, and notwithstanding all treatment became almost a living walking skeleton. It was then that the soured milk treatment was begun, by crushing one or more tablets of lactic acid bacillus and adding it to warm milk. This being allowed to stand for twelve hours. The diarrhea steadily became better colored after a while, the appetite returned and the dog ate cooked meat daily by degrees and recovered. A marked improvement had already been observed after the second day of the treatment. No other medicine was given. The writer has tried this treatment in dogs suffering with typhoid, but without any satisfaction. He thinks that in cases of stomach and bowel disturbances in dogs, and specially in puppies, soured milk would prove of great advantage.—(*Veterin. Journ.*)

URETHRAL CALCULUS IN A PUPPY [*A. W. Reid, F. R. C. V. S. and Prof. Hobday, F. R. C. V. S.*].—Four months' old spaniel puppy has complete stoppage of urine. He is in great pain and the abdomen is much distended. He makes violent efforts to urinate. A calculus is detected blocking the urethra at its end. The stone is removed and the dog relieved. Hyoscyamus completed the cure.—(*Veter. Journ.*)

RETENTION OF URINE IN CATS AND TREATMENT [*Prof. G. H. Wooldridge and S. J. Motton*].—This trouble is comparatively rare in females. Castrated animals suffer more from it. The animal is dull, mopes, refuses food, and if suffering with uremic poisoning exhales an odor of urine. Palpation of the abdomen is painful and the distended bladder can readily be felt. Sometimes pressure upon the abdomen gives rise to an expulsion of some of the retained urine. There may be urethritis or balanitis. As treatment, urinary antiseptics and sedatives may bring relief. If the bladder is much distended and symptoms of intoxication are present, tapping with a fine trocar is indicated. As

there is danger of rupturing the bladder in examining or manipulating the abdomen, because of the struggles of the animal, one must handle him with some care. The condition of the urethra must always be taken into consideration, and it must be free of any foreign body that may obstruct it. Tincture of hyoscyamus is also indicated.—(*Veter. Journ.*)

OVARO-HYSTERECTOMY OF A SHEEP [*Ashley Young, M. R. C. V. S.*].—Two year old ewe is in labor since several hours. Bad case of distokia. The right flank is open high up by incision of the skin, previously carefully aseptized, local anesthesia being obtained with cocaine. The uterus containing two dead lambs was located and "the whole lot was removed after application of strong ligatures above the ovary and just on the inner side of the *Os Uteri*." The wound was closed and treated antiseptically, healing being almost completed by first intention.—(*Ibidem.*)

RUPTURE OF THE LIVER IN A PUPPY [*Prof. F. Hobday, F. R. C. V. S.*].—Eight weeks old fox terrier puppy has a fall jumping clumsily from a sofa. He became dull and out of sorts and died in an hour. The post mortem revealed a quantity of blood in the abdomen and several ruptures in the liver tissue. A serious injury for such a trivial accident.—(*Ibidem.*)

CANINE NOTES [*Horace L. Roberts, F. R. C. V. S.*].—MELANOMA IN A DOG.—The brief record of a case having occurred in a brown Pomeranian dog, which had a growth situated in the sub-cutaneous tissue and the cutis in the region of the croup. It was spherical in shape, hairless and with a short peduncle. Removed in the customary way after antiseptic measures were taken and local anesthesia obtained with codrenin. The macroscopic and the microscopic examinations of the neoplasm proved it to be a melanoma, an affection not of frequent occurrence in dogs. Although in this case the color of the animal seemed to coincide well with its nature.

FRACTURE OF THE RIGHT RADIUS AND ULNA AND DISLOCATION OF THE HUMERO-RADIAL JOINT were found in a two year old Toy Manchester terrier bitch. Dislocation was reduced, the fracture put in proper condition, splints and bandages were applied. After about two weeks, the dog was found with her leg fractured a second time. The bandage had got loose and the

dog being allowed to climb up and down stairs had another fall and a new fracture resulted. The bandage was reapplied, although perfect reduction could not be realized. However union took place, the dog recovered without any shortening and no lameness remaining.—(*Veter. Record.*)

THREE PECULIAR CASES OF SO-CALLED MILK FEVER [*P. McKinlay, M. R. C. V. S.*].—1. Taken ill twelve days after calving. Treated by injection of the udder. Recovered in an hour. Had been lying on one side, was very excited, foaming at the mouth, champing her jaws, etc. 2. Ten weeks after calving. Found partly paralyzed in the field. Is made to walk to the barn when she drops down, breathes heavily, carries her head on her side round against the ribs, udder is nearly empty, temperature 101. Same treatment. Gets up in about 45 minutes. Is well the next day. 3. Five months calved. Had been exposed to severe storm. Lies quiet, tympanitic, made to stand after much struggling she holds her hind legs as straight as possible. Her back is arched; all four feet well gathered under the body, paddling continuously with her hind legs. She moans loudly, extremities are cold. Temperature 99. Same treatment and same result in about half an hour.—(*Ibidem.*)

## FRENCH REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

NECROSIS OF THE BARS: SEQUESTRUM AND CARIES OF THE INFERIOR MAXILLARY—RECOVERY [*Mr. Douville*].—A ten-year-old horse had a large swelling of the inferior jaw localized on the left side and involving the lips and chin. The skin is thickened, hard and not painful. When the mouth is explored, the horse rebels, but still the bar of the left side is seen; dark red in color and swollen. It is the seat of an irregular deep wound extending from the tusk to the divider of that side. The tooth is loose, half out of its alveoli. The wound is irregular and packed with food. Probing reveals a large cavity, with irregular walls, grating under the instrument and containing a sequestrum. The horse was cast,

a deep incision of the gums was made along the teeth, the tusk extracted without difficulty and also the corner tooth. The roots of these teeth were yellow, dirty color and eroded with the suppuration. The cavity was then cleared and two irregular sequestrum of the lower jaw were extracted. The bones, and the root of the divider, were well scraped and antiseptic dressing of permanganate of potash and tincture of iodine prescribed. After three weeks the wound was completely filled and the horse able to resume work, carrying a soft bit in his mouth.—(*Rec. de Medec. Veter.*)

Invagination of the Small Intestine in the Cæcum [*Mr. Reden, Army Veterinarian*].—One day, morning and evening, this horse refuses to eat or to drink, but he presents nothing else abnormal except that he looks dull. Towards evening he has a slight colic, scraping the floor. Then appears cold sweats in the axilla, on the olecranium muscles and the flanks. His colic became more severe. He lays down carefully in dorso-lumbar position. Taken out, he stands still, stretching himself, neighs loud, has a run, but otherwise does not seem in pain. The functions are normal, pulse full and regular. Respiration normal. He has had no passage of fæces. After a while, when put in his box stall, he begins to move his head up and down and keeps this movement up for a long time. When he lays down he still assumes the dorso-lumbar and sterno-costal decubitus. These symptoms continue during the night and the next day, when they become more serious and two hours before death were very violent, the horse throwing himself violently, struggling a great deal and finally dying after an illness of 32 hours. At the autopsy there was found a large laceration of the left muscular portion of the diaphragm, measuring 36 centimeters in length and 16 in width. Towards the end of the small intestine this is found to be of a dark red blackish color and inside of the cæcum is felt a hard, long body, sausage like, as big as the arm. This is a loop of the small intestine, 50 centimeters long, which is invaginated in the cæcum. It is highly congested and gangrenous in places. All the forms of treatment had failed and laparotomy only could have permitted the reduction of the invaginated intestine.—(*Rec. de Medec. Veter.*)

Tearing of the Psoas Muscles During Casting—Secondary Hemorrhage of the Posterior Vena Cava [*Mr. L.*

*Naudin*].—Castrated a month before, this heavy draught horse was sold. When to be put in harness, the saddle is put on his back, he bends down. He has had localized sweatings on the right flank and right hip. Lately the right hind leg is a little stiff and swollen. One evening he drops down suddenly in his stall and remains down a short time before he gets up. Brought out of his stable to be examined and see the condition of his castrated region, he walks staggering, falls down, rolls as if suffering with colic, has slight convulsions and then remains stretched out on the left side in opisthotonos; all the muscles contracted and hard, the jaws are tightly closed. These manifestations subside after a few moments, but the horse remains lying, respiration accelerated, heart bouncing and irregular, pulse soft, temperature below 37° C. While subcutaneous injections of ergotine and caffeine are prepared, the horse gets up, falls down twice, has three attacks and finally dies in coma. Autopsy: Several liters of limpid serous rosy liquid are found in the abdomen. Gastro-intestinal mass anæmic and whitish is found. Liver, spleen and left kidney have the same color as when animals have been bled to death. Right kidney is enveloped in a blackish mass covered by the peritoneum. It is an enormous clot of blood, 75 centimeters long by 40 wide and 45 thick. It weighed 12 kilogrammes. The right kidney is normal. The right psoas muscles have been torn and replaced by a bloody mush, in which remains of greenish, degenerated muscular tissue are detected. The posterior vena cava is readily torn and presents a solution of continuity, 10 centimeters long all surrounded by large clot of blood. The left psoas muscles are normal. The thoracic organs are bloodless, as also are the brain and meninges.—(*Rec. de Medec. Veter.*)

Coxo-Femoral Dislocation in a Cow [*A. Louis, Sanitary Veterinarian*].—Old cow passing a ditch, slips on damp soft ground, and is with difficulty brought home very lame. The right hind leg cannot bear weight and slips in great abduction. The left has a similar tendency, but it is less marked. A large œdematous swelling is detected on the coxo-femoral joints principally the right. The cow is killed. On the right side the interosseus coxo-femoral ligament is torn and the head of the femur is out of the cotyloid cavity. The adductor muscles are torn. On the left side the capsular ligament is partly torn and the interosseous lacerated, but not entirely ruptured.—(*Rec. de Medec. Veter.*)

RETRO-PHARYNGEAL ABSCESSES [*Ch. Darmagnac, Army Veter.*].—The record of two cases much similar in their manifestations. They showed slow mastication, difficult deglutition, throat not swollen but rather painful, no cough no nasal discharge. In one there was loud roaring. The treatment seemed of little avail and the condition lasted, the animals losing considerable amount of flesh. In one, one morning nearly three months after the appearance of the first symptoms, an abundant discharge of creamy pus was found running from both nostrils, and the horse was immediately relieved. He eat and drank freely. In the other horse a similar recovery took place after a sickness of only twelve days. The escape of the pus putting an immediate end to his sickness.—(*Ibidem.*)

FILARIOSIS OF THE RIGHT HEART IN A DOG [*E. Caillot, Student*].—This dog always a big eater, refuses his food; he is dull and constantly lies down. He has lost considerable flesh and is much emaciated. Auscultation and percussion are negative. Pulse is 132. After five days his condition gets worse. Breathing is difficult, there is great dyspnea. Abdomen is much swollen and fluctuation of ascitis is detected. Paracenthesis allows the removal of 3 liters of yellowish serosity. The animal is relieved for a while, but has a relapse after one week and is destroyed. Three liters of liquid were found in the abdomen. Liver was hypertrophied and highly congested. Pericardium contained ½ liter of serosity. The heart has its right ventricle very large. The tricuspid valve is covered with a ball made of worms rolled together and closing the auriculo-ventricular opening. These worms were filarias immitis; one of them measured 30 centimeters in length. There were lesions of chronic endocarditis.—(*Ibidem.*)

A RARE FORM OF MEASLES IN A DOG [*Mr. Suffran, Adj. Prof.*].—Subcutaneous localization of that disease is very rare. Only two cases are recorded. This one is interesting. Fox terrier, 4 years old, has had since a few weeks lumps appearing on his body, ulcerating and healing. Some while ago he had eight or ten. But now the dog seems to suffer, he has lost his appetite, and although he has but a dozen of these tumors varying in size between that of a nut to that of a hen's egg, which are soft and fluctuating, careful manipulation of the skin shows that there are a great number of others, smaller, more or less painful, which

will in time grow larger. There are some fistulous wounds connected with the tumors that have ulcerated spontaneously. The tumors are evidently sub-cutaneous cysts, which, by their returning condition and their large number. suggest the idea of their being parasitic. One of them is opened with the bistouri, an escape of sero-purulent yellowish or hemorrhagic fluid takes place, and with it a vesicle, oval in shape, translucid, white, having in its middle a whitish opaque spot; it is the invaginated head of a tænia. It was the cystic form of the tænia solium. Eight of these cysts, being the largest, were opened and emptied. The general condition of the dog improved. But it was only after eight months of careful attention and care that he was relieved. Strict prophylactic measures prevented the infection to other animals. It is probable that this dog infected himself by eating fæces of man affected with tape worm.—(*Revue Veterin.*)

Calculous Cystitis in a Cat [*By the same*].—Another very peculiar condition. Four-year-old cat makes violent continuous expulsive efforts. He refuses all food, solid or liquid. Rectal examination detects complete vacuity of the intestines. Temperature does not reach 37°. Examination of the abdomen gives the sensation of the bladder being much distended. Catheterism is resorted to, and a calculus prevents the probe from going further than two centimeters from the urinary meatus. The stone is felt through the skin. Urethrotomy is performed on a level with it and is followed by the escape of a great quantity of muddy urine having a fœtid odor. The stone came out and was rounded, rough on its surface and whitish in color. It was the size of the head of a pin. The animal dies the next day with symptoms of urinary infection. In the peritoneal cavity there was a large quantity of urine. The kidneys were large, and hypertrophied. Ureters largely dilated. Bladder was partly empty and forms a mass dark here and there, bluish or purplish in other spots. When it is squeezed the urine escapes in little streams through small openings almost invisible to the naked eye. It is evident that during life the contents of the bladder had thus filtrated in the peritoneum and that urinary infection following, the cat died with it. There was in the bladder gravel of various size, one was as big as a pea. They were formed of tricalcic phosphate of lime.—(*Revue Veter.*)

Curious Abnomally of the Membrana Nictitans in a Colt [*Mr. Fafin*].—It was a five days' little fellow that seemed

to be blind. The eye lids, rather apart and movable, are normal, but between them is seen a membrana nictitans, which covers the ocular globe entirely, having its thin border attached on the opposite side by a thin membrane. An incision was made from upwards downwards alongside the anterior part of the third eyelid, which being then free, moved without difficulty and exposed an ocular globe atrophied and incompletely developed. It was striated with numerous little vessels and through the cornea the iris could be seen as a greyish spot with irregular edges and without pupil. The same condition existed on both eyes and the colt was completely blind.—(*Semaine Veter.*)

## BELGIAN REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

MESONEURECTOMY AND TENOTOMY IN KNUCKLING [*Prof. Lienaux*].—The idea to combine these two operations in the treatment of knuckling is due to Mr. Breton, of the Alfort school. He stated that the resection of the median must be the complement of the section of the perforans tendon. After a simple tenotomy, a return of the knuckling is frequent, almost fatal. Having had occasion to treat a horse of heavy draught, which had knuckling resulting from large side bones, and was very lame and unable to work, Prof. Lienaux performed median neurotomy first, and then section of the perforans. The operation was by the method of open operation, viz.: by the incision of the skin and exposure of the tendon. Simple aseptic dressing was left on for a week and renewed after the twelfth day. A thick-toe shoe had been applied before the operation and its effects were to keep the ends of the tendon as far apart as possible from the moment they were divided. After six weeks the recovery was complete and the horse resumed work. There has been no relapse. For the writer the neurectomy has for result the removal of the soreness about the tendon, the horse has no pain in resting firm and square on the whole plantar surface of the foot, the divided ends of the tendon are kept apart while cicatrization goes on and is completed.—(*Annales de Bruxelles.*)

ANAL TUMORS OF DOGS [*Prof. G. Hebraut and Antoine*].—Under that name are included all inflammatory or neoplastic swellings around the anus. They vary much in nature. Indeed, besides neoplasms, others may also be found: hemorrhoids, adenomas of the anal glands, etc.

1. *Anal tumors* properly so called belong to the carcinomas and adenomas. They assume irregular form, cauliflower like; they are sometimes adherent to the skin and reaching sufficient size to prevent defecation. They may extend to surrounding parts and sometimes involve the tail. Histologically cancers of the anus are pavimentous epitheliomas and the adenomas come from the circumanal glands. Their treatment is surgical and they often return after their removal.

2. *Hemorrhoids* are very rare. They are detected by rectal touch. They may appear as small tumors disseminated around the anus or again as a single large bluish swelling. Defecation may be interfered with and the fæces are striated with blood. Pallative treatment consists in laxatives, change of diet; surgical treatment consists in ligature or cauterization.

3. *Inflamed anal glands.* Warm and painful and fluctuating they form swellings which sometimes give rise to violent frequent efforts for defecation. Pus can be easily squeezed out from them. They sometimes ulcerate by themselves. They can be emptied by digital pressure through the rectum. In case fistula should remain, cauterization is indicated or again the removal of the gland. —(*Ibidem.*)

RUPTURE OF THE BLADDER DURING PARTURITION IN A MARE [*Mr. J. Nizel*].—A pregnant mare has reached the end of her term of pregnancy without presenting anything abnormal. On the day of delivery she has some manifestations quite natural, followed by the protrusion through the vulva of a portion of the small intestine. Vaginal examination reveals the urinary meatus largely distended and through it passes the intestine. Evidently there has been a rupture of the bladder; if the mare cannot be saved, the colt may, and with difficulty he is extracted. The presentation was posterior in lumbo-pubic position. The colt lived three days, but could not stand artificial feeding. The mare had been killed immediately. At the post mortem, an enormous mass of intestine was found pushing its way through a laceration of the bladder, passing through the meatus and then outside by the vulva. The bladder had an antero-pos-

terior laceration involving the entire fundus of the organ. The meatus measured between seen and eight centimeters in diameter. On the inferior face of the uterus on the outside, there were two bruises, one close to the bladder, involved the serous and mucous coats, and the other principally the serous membrane only. Corresponding to these bruises, on the inside of the uterus, there were two complete lacerations of the mucous membrane, one 7 or 8 centimeters long, and the other 20 at least. —(*Ibidem.*)

GOUT OR URIC DIATHESIS IN FOWLS [*Prof. G. Hebraut and Antoine*].—A two-year-old rooster, which has always fed well, is killed for cooking. During his life he could not walk nor could he stand on his paws, and he always was lying down on his sternum with his hind legs under him. To move from one place to another he had to fly. When the paws were cut off his body, they both appeared equally diseased from the tarsus down. They were the seat of a series of tumors, developed principally at the joints and on the inferior face of the digital region. These tumors were fluctuating, some being as big as a hazel nut, and when incised gave escape to a white creamy mush which under the microscope proved to be composed of numerous fine crystals of urate of soda. Treated with a few drops of nitric acid and evaporated with moderate heat, these became of a red onion skin color, which by the addition of one drop of ammonia took a handsome purple color, changed to purplish blue with solution of caustic potash. In other words, the tumors were deposits of uric acid and of urates. The rooster had chronic gouty arthritis which differs from another variety of gout, the visceral form, which leaves lesions of urate deposits in the various organs of the animal, and which is generally recognized at post mortem only and for which hygienic measures especial food and mineral waters are indicated.—(*Ibidem.*)

AURICULAR CATARRH IN A DOG DUE TO THE PRESENCE OF A SPIKE OF RYE [*By the same*].—Small cocker has an auricular catarrh since several weeks and notwithstanding astringent and antiseptic washing the discharge continues. The dog suffers much and howls with pain. One morning while he was taken care of and his ears treated, the assistant thought he could see in the bottom of the concha and concealed in the cutaneous folds by the long hairs of the dog a small piece of straw. A more

careful examination showed indeed two small threads of dry substance, which at first were taken for concreted wax. Taking hold of one of them with a fine pair of forceps, and by steady traction, a spike of rye was brought out. It measured 4 centimeters in length and had on its end a sharp point which must have rested on the membrana tympani, if it did not pierce it through. No complication towards the middle ear or the internal have followed. Dog got well rapidly after.—(*Ibidem.*)

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Prosecuting Attorney (Frozen Dog)—Your honor, the Sheriff's bull pup has gone and chawed up the court Bible!

Judge—Well, make the witness kiss the bull pup, then! We can't adjourn court for a week jest to hunt up a new Bible.—*San Antonio Scimeter.*

THE appointment of a "Dairy Committee" by the New York State Veterinary Medical Society, at its recent meeting at Ithaca, was a step in the direction of progress and expansion, we take it, and so far as we know, is an innovation. The obvious duties of this committee are to better the conditions of milk production in that State, looking to clean milk.

SLEEPY GRASS.—While making a trip through the southwestern part of New Mexico, Herbert W. Wolcott, of Alamo Gordo, N. M., found a grass from which he believes a narcotic may be extracted which will take the place of those now known to medicine, says the *Kansas City Star.* "The grass is known as 'sleepy grass' to the natives of New Mexico, near the Apache reservation," said Mr. Wolcott. "Cattle and horses will eat it the first time they see it. It makes them fall to the ground in their tracks and lie in a state of coma for two days. When they wake up they have no ill effects from the opiate. But they will never eat it again; in fact, they will run away if it be offered to them. This 'sleepy grass' is not to be confused with the loco weed. The grass is a real grass, not unlike the Kentucky blue grass in appearance. The loco weed is a plant and bears a flower. Horses and cattle become loco fiends and are worthless after tasting the deadly stuff."

# OBITUARY.

## LEONARD PEARSON, B.S., V.M.D.

Dr. Leonard Pearson was born in Evansville, Indiana, August 17, 1868. His parents were Leonard and Lucy Small (Jones) Pearson, who were of Puritan ancestors. He died at Spruce Brook, Newfoundland, Monday morning, September 20, 1909.

In 1884 he entered Cornell University, and was graduated in 1888 as a Bachelor of Science in the Agricultural course. He was a member of the Chi Psi Fraternity and the Society of the Sigma XI. While at Cornell he became interested in veterinary work, and in 1887 he was employed by the United States Department of Agriculture under Prof. James Law, his lifelong friend, in assisting to stamp out contagious pleuro-pneumonia of cattle in the vicinity of Chicago.

He graduated from the University of Pennsylvania, Veterinary Department, with the class of 1890. The following years of 1890-91 he attended lectures in the veterinary schools of Berlin and Dresden and studied bacteriology in Koch's Laboratory and in the Laboratory of the Veterinary Department of the German Army. On his return to America he was elected assistant professor of theory and practice of veterinary medicine in the University of Pennsylvania and in 1894 was promoted to a full professorship. In 1897 he was elected Dean of that institution, a position which he has since filled with conspicuous ability. In recognition of his research work, the university in 1908 conferred on him the honorary degree of Doctor of Medicine.

In 1892 he was appointed non-resident lecturer on veterinary science at the Pennsylvania State College.

He was a member of and attended the Seventh International Congress of Hygiene and Demography, held in London in 1891, and the Third International Congress for the Study of Tuberculosis that met in Paris in 1898, and in recognition of the services rendered in the study of animal tuberculosis he was chosen to preside over the section on animal tuberculosis at the Congress held in Washington in 1908.

He was one of the founders and editors of the "Veterinary Magazine," and the author of numerous papers on veterinary and sanitary subjects. He was a prolific writer and contributor to the literary field of veterinary sciences, the domain of agriculture, the stock-breeding interests and the whole realm of animal industry and had justly earned the proud title of the leading "animal engineer" of America.

As Secretary, then President, he filled the highest offices in the American Veterinary Medical Association, and served two terms as President of the Pennsylvania State Veterinary Medical Association, and the same may be said of him in reference to the Keystone Veterinary Medical Society. He was an active member and past President of the Guernsey Cattle Club of Philadelphia, a member of the Pennsylvania Live Stock Breeders' Association, State Grange, The American Public Health Association, Philadelphia City Board of Health, advisory member of the State Board of Health, and Veterinarian to the State Board of Agriculture. He was a member of Ivanhoe Lodge, F. and A. M., and an active member of the Harrisburg Club, the University Club and the Union and West Philadelphia Republican Clubs. In all these organizations his genial manner won him hosts of friends. In all his association work he was active and aggressive and furnished most valuable assistance in their management and government.

He organized the Pennsylvania State Live Stock Sanitary Board in 1895 and was appointed its secretary and State Veterinarian by Governor Hastings and has been reappointed by each succeeding Governor since that time. He commanded the implicit confidence of all his people, from the Governors to the most humble farmers. Few men were better known throughout the Commonwealth than Dr. Pearson and none were more respected. To those interested with him in the Veterinary Department of the University of Pennsylvania, the State Live Stock Sanitary Board and similar organizations with which his work has been so intricately woven, his loss is felt with the keenest sorrow.

He knew how to think, speak and write, was conscientious, far-sighted, honest, possessed good judgment and enjoyed the general esteem of all who knew him. He was a captivating orator, precise, methodical and clear, and possessed to a high degree the gift of analysis, synthesis and generalization. The many abstract and complex problems filtered through his mind as a pure

crystal. Speaking or writing, he reflected the exceptional qualities of his beautiful intellect. There was exactness and faithfulness to the rules of our language and a perfect fitness of words to express ideas in every sentence he used. Dr. Jas. G. Rutherford has well said of him, "Dr. Pearson was in a class by himself among the veterinarians of this continent, while even in the Old World there are few who rank anywhere near him. He was not only a great veterinarian but a great man in many other ways, and one who, had he been spared, would have made a well-defined mark on the national life of his own as well as that of other countries." His work has been unique in character from the fact that through his conception most of it has been created. Much of it has been completed, the greater portion planned and years of intelligent application will be required to carry it to a successful fruition. May the same all wise Providence Who, in His infinite wisdom, has removed this man in the prime of life, direct those who are to take up his many burdens.

Dr. Pearson's illness dates back two years or more when his family and friends became aware of the fact that his manifold duties and responsibilities were telling on him. With his energy already taxed to the utmost, his exhausted condition was greatly aggravated by the additional worry and effort, incident to the outbreak of foot-and-mouth disease in Pennsylvania in the early part of the past winter. This, combined with his efforts in securing, from the last Legislature, much needed appropriations for buildings and maintenance for the Veterinary School and also funds for the administration of the work of the State Live Stock Sanitary Board, called forth the limit of his capacity. With this marvellous amount of work accomplished, it was arranged to relieve him of much of the routine work of his official duties; and, after the narrow escape of his mother and himself from asphyxiation with illuminating gas due to his experiencing a fainting spell while caring for his mother who was at that time ill, he was finally persuaded to take the rest which up to this time he had considered impossible. After recovering sufficiently from the acute affects of the gas poisoning, he decided upon a sea voyage, a form of recreation to which he was most partial, and accordingly sailed on a coast line steamer for Savannah in the early part of July. On his return, he immediately embarked for England, returning by way of Halifax, where, on the advice of his physicians and friends, he decided to remain

for an indefinite period. He was later compelled to go to Newfoundland on account of an attack of hay fever, to which he was subject, and at the time of his death was sojourning at the Log Cabin, Spruce Brook, a secluded place on the southwest shore of Newfoundland. The latest communications received from him indicated that he was improving and that he hoped to be able to return to his office in Philadelphia within a short time. A few hours prior to his death he suffered a sudden collapse which was followed by a hemorrhage that resulted in death in a few minutes. It was gratifying to learn that he had received the best of attention, medical and otherwise, during his stay at the Log Cabin, which was found to be an ideal place for rest and recuperation.

Next to the members of his immediate family and personal friends, it is our profession, over which his glory has thrown a splendor so bright, that will feel his loss most deeply. He was pleasant and affable in manner, generous in nature, thoughtful and considerate of others at all times and had won a coveted place among the members of his chosen profession. In the discharge of great responsibilities, a full measure of which he always accepted, he was eminently successful and a nation's people have become his debtor. He has given his life in unselfish service for others.

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## DAVID JEFFREY DIXON, D. V. S.

Dr. David J. Dixon died suddenly of heart failure on August 26, 1909, in Hoboken, N. J., which had been his home during his professional career. Dr. Dixon was born at Saint Thomas, Franklin Co., Pa., on March 19, 1856, being in his fifty-third year at the time of his death. In his early life he attended the public school at St. Thomas, and the Mercersburg College, from which he graduated with high honors in 1878. He then entered the American Veterinary College, in New York City, from which institution he graduated in 1881. He was subsequently called upon by his alma mater to become a member of its teaching staff, in the capacity of lecturer and demonstrator of anatomy, which position his increasing practice in Hoboken finally compelled him to relinquish.

In October, 1903, Dr. Dixon was united in marriage to Belle Graham MacMurray, of Mountainside, New Jersey, who survives him. He is also survived by two children, William Gillen and Mary Elizabeth; his father, Col William Dunlap Dixon, a civil war veteran, still residing at the old homestead, St. Thomas, Pa., and a sister, Mrs. Edward B. Diehl, of Lemasters, Pa. Dr. Dixon was a member of Pentalpha Chapter No. 11 R. A. M., Pilgrim Commandery No. 16 K. T. and Hoboken Lodge No. 35 F. and A. M. He was a man of high moral character, high principles and possessed of an honesty and integrity of purpose that commanded the respect of all that knew him. With his professional brethren he was held in high esteem.

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## RUDOLPH JULIUS MARSHALL, V. S.

Dr. Rudolph J. Marshall died at his home in Williamstown, Mass., Aug. 31, 1909, as a result of diabetes, from which he had been suffering for about two years, although he had only been confined to his house for a short time. Dr. Marshall was born in Troy, N. Y., thirty-six years ago. He received his early education in the Troy public schools, after which he entered the Ontario Veterinary College, from which he graduated in 1897. After brief sojourns at Greenwich and Mechanicville, N. Y., he located at Williamstown, Mass., where he soon surrounded himself with many friends and a lucrative practice. His excellent character and integrity of purpose attracted his townsmen, and he was soon the recipient of the position of inspector of cattle in his town; later the position of inspector of meats for the local board of health, and, finally, about a year ago, from the state Department of Agriculture an appointment as state inspector for his section of the state. Dr. Marshall was a member of Williams Lodge F. and A. M. and Taconic Council R. A. In 1902 he married Miss Mary Coleman, of Greenwich, N. Y., who survives him. He is also survived by his father, Rudolph Marshall, a brother, Albert H. Marshall, and three sisters, all of whom, except one sister, Mrs. Sisson, live at Hoosick Falls, N. Y., the latter living at Walloomsac, N. Y.

# SOCIETY MEETINGS.

## AMERICAN VETERINARY MEDICAL ASSOCIATION.

On Tuesday, September 7, 1909, at 10 a. m., in the auditorium of the Chicago College of Music, President J. G. Rutherford sounded the gavel and declared the first session of the forty-sixth annual convention of the American Veterinary Medical Association officially opened.

Mr. George A. Bagley was then introduced as representing Hon. Fred A. Busse, Mayor of Chicago, and welcomed the association to his city in the following pleasant manner:

"Mr. Chairman and Delegates of the American Veterinary Medical Association: It is my pleasure and privilege to be here this morning as the representative of his Honor, the Mayor, who, unfortunately, was unable to attend, for the purpose of extending to you a welcome to our city. We, of Chicago, appreciate the fact that it is regarded as one of the best cities in every essential particular for holding a convention in, upon any topic liable to be discussed in North America. A great many of these gatherings are held in the heated season, and Chicago, by reason of its proximity to the great lakes, has its climate tempered to the shorn lamb, so that when a convention is held here in the hot weather, we can most always give you a sufficient variety of temperature as to degree, to meet the necessities and tastes of most any individual. (Laughter.)

"I have been told that your organization is somewhat cosmopolitan in its character. This is necessarily a cosmopolitan city. We have here representatives not only of every nation upon the earth, but it has been said with some degree or claim to accuracy that we have as many Irishmen here as there are in any city of Ireland, that we have as many Scotchmen as there are in any city of Scotland, and that we have as many Englishmen as there are in any English city. We think we have as many good people as they have in any city, and sometimes people desiring to indulge in invidious comparisons, say that we have as many bad people. Well, that may be true, except that they keep themselves out of sight.

"Now in a city the size of Chicago we appreciate the fact that we have represented here almost every vocation which the ingenuity and industry of man has seen fit to create.

"In a city of the size of Chicago, the necessity of conserving the public health is possibly one of the leading functions of the local government. Fortunately, the city of Chicago to-day has possibly one of the most efficiently organized health departments it has ever enjoyed, and the citizens of the city appreciate that fact. Its duties, strange to say, are not confined exclusively to the territory of the city itself, but by reason of the fact that Chicago is the market for a great part of the commodities raised in all of the surrounding states and agricultural districts, in which there is a large area, comprising a large number of different states, it has become necessary for the health department of this city to reach out and subject itself to some criticism by being somewhat impertinent in its inquiries in these outlying districts for the purpose of protecting the health of the city. To illustrate what I mean: Not long since a friend of mine was telling me, a member of the legal profession, that a delegation of gentlemen came from an adjacent state for the purpose of advising with him as to whether or not the health department of the city of Chicago had the right to dictate the number of people a man should have in his barn, the manner in which the floors of the barn should be constructed, the ventilation of the barn, and the location of the wells for the purpose of watering the stock, and all of those details which some of the gentlemen thought were matters which were none of the business of the health department of this city. After making this statement, my friend was asked whether the health department of the city of Chicago had the right to interfere in these matters in localities altogether out of its jurisdiction, and he said, 'No, they cannot do it.' But there was one old gentleman with the party who said, 'Well, we want to sell our milk in Chicago. Can they stop us if we do not comply with these requirements?" The lawyer answered 'Yes,' and that is where the shoe pinches. By reason of these sanitary regulations and requirements of the health department, there has been a great deal accomplished in that direction, especially toward the conservation of the public health, the prevention of epidemics, and things of that character. That has been a great thing for the city, and it has been a matter in which your profession has participated to a greater or less extent. It is something which the citizens of Chicago greatly appreciate. It is a

work in which the members of a profession like yours can do a vast deal for the conservation and promotion of the health of a city like Chicago. But I am trespassing upon a topic which I understand is to be discussed before your body. It is not my province or intention to touch upon any of the topics which will be discussed by the various members of your body, but I do want to say that I hope and trust that your deliberations here will be profitable and beneficial to all of you individually and collectively, and that when you go away you may go with a good impression of Chicago, not only of its topography, but we hope also of its officialdom.

"I thank you one and all."

At the conclusion of Mr. Bagley's remarks, President Rutherford said: "I have the pleasure of calling upon Dr. Nelson, of the State of Washington, to reply to this kindly and genial address of welcome that we have just heard."

DR. NELSON: "Mr. President and Mr. Bagley: In behalf of the members of the American Veterinary Medical Association and the visitors to this Association, I thank you for your words of welcome to this city. I wish to assure you that this Association is not a stranger, as you tell us, to the city of Chicago, or that the hospitality of its citizens is unknown to us. There are many of us that have had the opportunity to enjoy the hospitality of the citizens of Chicago, and many of us carry with us many pleasant memories and recollections of the happy times that we have spent here some years ago at a meeting of this Association, and, in the case of others, their medical education has in large part been pursued in this city.

"There is a peculiar mutual condition existing between the city of Chicago and the veterinarians of the United States in that the city of Chicago represents the distribution of one of the largest industries in the United States, in that the stock interest centers at Chicago, and it is from here that the distribution of the finished product of the stock industry is made. Chicago is the great conserver of the stock interests, the business of the stock raiser, not only from the Pacific and western part of the United States, but from well on towards the eastern coast, where the great stock interests used to be centered. You well said, sir, in your remarks, that Chicago stands for the center of all these things. It spreads out further than some of us think. If you come here by train, you will see on all sides train loads of live stock, some coming in from the southern part of Texas, others

from the western part of New Mexico, from all of the western States, as well as from the south and the north, into this one center. Some of them stop in other places, but the center and the final destination of most of them is here.

"It is rather fitting at the present time, if I may say so, that it is our hope that we may realize all of the good wishes which you have expressed toward the members of the Association. I must say that the members of the Association, especially some of those whom I might call on, will make you no trouble, because I think we can assure you, sir, that the Association is large enough, and the members of it wise enough, and they have taken upon themselves the responsibility of guiding the younger members of this association, so that I think you will have no fear if you look over this audience, because you will see that while there are many young men in the background, there are many elderly men at the front, where they can give us good advice.

"In behalf of the members of this association, I thank you for the hearty welcome to this city."

After the applause following Dr. Nelson's remarks had subsided, the president delivered the annual address, as follows:

## PRESIDENT RUTHERFORD'S ADDRESS.

Fellow Members of the American Veterinary Medical Association—You will, I doubt not, recollect that my predecessor, in beginning his masterly deliverance of last year, made the statement that he had scanned in vain a large number of previous presidential addresses without being able to discover, so to speak, a corner of virgin soil; a subject or branch of a subject relating to or connected with the veterinary profession, which had not been fully dealt with, or in regard to which it might be possible to say something new.

If this was his predicament, what must mine be, when to the long list of eloquent addresses has been added his own comprehensive, broad-minded, and yet terse summary of the conditions, needs and aims of the veterinary profession on this continent?

The ground which he declared he found so fully covered is now entirely submerged, and there is, therefore, but little chance of my being able to interest you, or even to hold your attention for a much briefer period than that which he, or the venerable professor whom he succeeded, occupied in the enunciation of his inaugural address.

My difficulties are increased by the fact that during the past year my time has been, to even a greater degree than usual, occupied by official duties. At the date of our last meeting, I had but just returned from Europe, to find many important matters awaiting attention. The International Congress on Tuberculosis at Washington followed closely on our own gathering at Philadelphia, and before the end of October I was again on the ocean on my way back to Rome, as the official delegate for Canada to the International Institute of Agriculture, not to return until the last days of December. From that time until the week before last the numerous and constantly increasing duties of my various offices have claimed my almost undivided attention, the pressure being rendered much heavier by the absence through illness and other causes of a number of the members of my staff. A fortnight ago I left my desk for Winnipeg, where it fell to my lot to address the Canadian Medical Association on the subject of bovine tuberculosis, and to read a paper on one of our Canadian live stock problems before the British Association for the Advancement of Science. On my return to Ottawa last week I found the usual accumulation of pressing matters constantly arising, as many of you well know, in work such as ours, and as this address has since been prepared, you will, I trust, be charitable to its many deficiencies and to its somewhat overworked author. This explanation is perhaps too long drawn out, but I feel that without some such apology I could scarcely venture to inflict on the members of the American Veterinary Medical Association, accustomed as they have been, especially of late, to the distillation of wit and wisdom from the presidential chair, my rather brief and untrimmed dissertation on professional matters.

In the first place, I desire to express my heartfelt appreciation of the great honor which, in electing me your president, you last year conferred upon a comparatively young member, and one resident in a country other than that to which the overwhelming majority of you owe allegiance.

In now acknowledging your kindness in this regard, I do so with the full knowledge and realization of the fact that the honor was bestowed as an act of international courtesy towards my country, and not because of any particular worth or merit of mine.

In the name of Canada, therefore, and particularly on behalf of Canadian veterinarians, I desire to thank you for this mark of friendliness and good-will.

I trust that in the near future more and more Canadian veterinarians will become members of this association and do their part in assisting to make its future continue to eclipse its past. It is to-day, beyond any question, the greatest and most active association of veterinarians in the world. Its present greatness, however, is as nothing to what it will be in the future, when, as will certainly be the case if it is guided wisely and warily, there will be included in its ranks every worthy member of the profession on this great continent.

The story of the foundation and growth of this association has been often told, but it never grows wearisome. Its founders "builded better than they knew," and the names of these worthy men, who nearly half a century ago banded themselves together for the betterment of the American veterinarian, and who, through "evil report and good report," and despite drawbacks and discouragements, kept that object constantly in view, are worthy of every honor which we, their successors, can bestow.

I have often regretted that the influence of this association was not earlier brought to bear on the profession in Canada. I feel sure that the results would have been mutually beneficial and that some of the difficulties with which we have had to contend in recent years would have been long ago greatly lessened, if not altogether overcome, but "better late than never."

During the eleven years which have elapsed since the name of the association was changed and Canadians were made to feel at home within its gates, much has been achieved, and if, as I hope will be the case, another annual meeting can, in the near future, be held on Canadian soil, the results will undoubtedly be far reaching, especially in view of the advance which has recently been made with regard to veterinary education.

The conditions under which the practice of comparative medicine is carried on are practically identical in both countries, and nothing but good can result from the maintenance of the most friendly relations between the members of our profession on both sides of the international boundary.

While on this phase of the ubject, I would remind you that it will not be altogether my fault if I make but little reference to some of the questions which have, in former years, furnished much of the matter for presidential addresses.

Many of the educational and legislative problems, which largely occupy the attention of this association, and are almost annually commented on by its presidents, are of a national char-

acter, and can scarcely be intelligently discussed by one who is not a citizen of the United States.

These, therefore, I will leave to be considered and dealt with by those more familiar with them than I can properly claim to be.

In Canada we have, as most of you know, troubles of our own. The age of the veterinary profession in the Dominion is almost identical with that of this association. The Ontario Veterinary College was founded in 1862, forty-seven years ago, and was, therefore, one of the pioneer schools on the continent. It was followed shortly afterwards by the establishment in 1866 of the Montreal Veterinary College, and later in 1886 by the foundation of the Faculty of Comparative Medicine of Laval University.

The history of all these institutions is familiar to many of you. The Ontario Veterinary College has had a long, and from many points of view, a successful career. It perhaps maintained its original pioneer character rather too long, but "all is well that ends well," and now, controlled by the Provincial Government and under the ægis of the University of Toronto, it has opened a new, and let us hope, a glorious chapter in its history.

The Montreal Veterinary College, after maintaining an independent existence for twenty-four years, was merged in 1890 with the Faculty of Comparative Medicine of McGill University. This institution consistently endeavored to reach and maintain a high standard of veterinary education, and it was a matter of deep regret, not only to its many graduates, but to all those interested in the advancement of veterinary science on this continent, when, largely, through lack of support, it was compelled, in 1902, to close its doors.

The Faculty of Comparative Medicine of Laval University enjoys the unique distinction of being the only veterinary college in America where tuition is conducted in the French language. It has not been largely patronized, but has always attracted a small number of French-Canadian students, not a few of whom have left Quebec and are competing for practice in the United States, as well as in the English-speaking provinces of the Dominion.

I have always felt that this French-Canadian school, whose first principal, Professor V. T. Daubigny, a graduate of the Montreal Veterinary College, passed to his rest last year, afforded an exceptional opportunity for the grafting on the veterinary profession in America of a new scion of that famous French

school, which has done so much for comparative medicine throughout the world, and of which Professor Liautard was such a notable and successful exponent.

It is, therefore, a great pleasure to me to be able to inform you that I have recently succeeded in sending two of the veterinary professors of this college to France for the purpose of taking a special course, one at the famous National School at Alfort under Professor Barrier, and the other at the similar institute in Lyons, which is under the direction of Professor Arloing, whom many of us had the pleasure of meeting last year in Washington. Both of the gentlemen who have gone to France are practical veterinarians, and there is every reason to hope that after their return the college at Laval will be an important factor in the dissemination of modern French veterinary science among the practitioners of this continent, as the majority of the students attending Laval, although studying in French, speak English freely and fluently.

I may explain that my action in regard to this particular matter was brought about through the necessity of providing a reasonable number of French-speaking inspectors for the work of the Health of Animals Branch of the Department of Agriculture which is under my direction.

We have in Canada between two and three millions of people who speak French, and, in both the Field and Meat Inspection Divisions of the service, it is desirable to have officers familiar with that language.

While on this subject I would fain pay a tribute to the magnificent work of the United States Bureau of Animal Industry, which, inaugurated and built up by Dr. Salmon, has been worthily maintained and extended by his eminent successor, Dr. Melvin. The achievements of the Bureau are an inspiration to the whole veterinary profession, and especially to those who, in other countries, are endeavoring, with more or less success, to arouse public opinion and the interest of governmental bodies in veterinary sanitary science. No other institution of a similar character has ever met and overcome so many different and difficult problems of disease. It is comparatively easy to deal with animal plagues in the small, thickly settled and effectively policed countries of the old world; it is an entirely different matter to combat contagious diseases on this continent where there is much less restraint of any kind, where animals range freely over wide areas and where modern methods of transportation facilitate the

rapid transmission of infection to districts thousands of miles away.

The Canadian Health of Animals Branch is, compared with the United States Bureau of Animal Industry, a thing of yesterday, being only seven years old; but it is a lusty youngster, growing fast and constantly, like Oliver Twist, "asking for more."

In many respects it resembles the Bureau, in so far as it has control of all animal quarantines and of meat inspection. It has, however, one advantage, inasmuch as it has absolute control of contagious diseases throughout the Dominion, unhampered by the provincial authorities, who, within recent years, have gladly transferred to the Federal Government the work which they had undertaken in this direction.

Its organization is, however, as yet far from complete, and there is still much to be done before we can regard it or its achievements with the same measure of pride as is properly felt by the citizens of the United States in their capably manned and magnificently equipped Bureau of Animal Industry.

In both countries we are slowly but steadily gaining ground in the control and eradication of animal diseases, and, as a consequence, are year by year improving our position with the general public and even with the live stock men themselves, who, in the very nature of things, are the last to be convinced of the benefits which they are the first to derive from our efforts.

In spite of the success which has attended and is attending our endeavors to obtain the mastery of many of the maladies affecting live stock, we are still a long way from being in the position of Alexander the Great, who wept because he had no more worlds to conquer.

While we, in America, are fortunate in not being confronted by the large and varied assortment of animal plagues found in some other countries, notably South Africa, the happy hunting ground of the bacteriologist, we have, perhaps, as many contagious diseases as we could reasonably wish for.

Some of these we have fairly conquered, while against others we are maintaining an active and constantly more effective warfare.

With regard to the greatest problem of all, however, we are practically at a halt, and although we have thrown out many scouts and skirmish lines, we are still awaiting the genius who will evolve a plan of campaign which will afford some hope of a final victory.

The great question of the control and ultimate eradication of bovine tuberculosis still confronts us, and its practical solution demands our immediate and earnest attention.

The problem is a double one, or rather there are two problems, which, though in one sense closely connected, are yet capable of complete differentiation.

These are, firstly—The eradication of tuberculosis from the herds of the continent.

Secondly—The protection of our fellow-citizens, and especially the children, from infection with tuberculosis of bovine origin.

Of these the last named is by far the most simple and easy of solution, inasmuch as it is only necessary to provide municipal and public health authorities with the powers required to absolutely control the supply of milk and meat, these products being unquestionably the most important agents in the communication of tuberculosis from animals to man.

Of these two agents milk is for various reasons, on which I need not dilate to this audience, by far the most dangerous. The great Von Behring goes so far as to say that the milk fed to infants is the chief cause of tuberculosis infection among the younger members of the human race.

The British Royal Commission of 1895 reported unanimously that, in their opinion, the largest part of tuberculosis which man obtains through his food is by means of milk containing tuberculous matter.

Those of us who have been for any length of time in veterinary practice, especially in rural districts, or in the smaller towns, have had ample opportunity of verifying this statement.

That any civilized community should, in the light of present-day knowledge, continue to permit the sale of raw milk from tuberculous cows, is absolutely beyond my comprehension.

Unfortunately for the children, an erroneous impression has for some time prevailed, that there is but little risk in using the milk of reacting cows, other than those affected with tuberculosis of the udder, or in which the disease has become generalized. This view is far from correct, it being a matter of common knowledge to practical men, that the milk of many cows, which show absolutely no clinical symptoms of tuberculosis, either in the udder or elsewhere, is capable of transmitting the disease to both calves and pigs, and therefore under similar conditions to human beings.

Further, while it may not be possible to find a bacillus in the milk of a reacting cow to-day or to-morrow, it is utterly impossible to tell how long this immunity may continue or at what particular time the case may become one of open tuberculosis.

The danger from this source can, however, be practically eliminated by providing for a regular veterinary inspection and testing with tuberculin of all herds supplying milk for human consumption, or, where such a policy might be considered extreme, or likely to cause a milk famine, by the scientific pasteurization under official supervision of all milk regarding which any suspicion of tubercular infection may exist.

It has now been fully demonstrated that by keeping milk at a temperature of 140 degrees for thirty minutes all tubercular bacilli are killed, while, at the same time, the digestive properties of the fluid remain entirely unaffected.

Infection through meat can be effectively guarded against by the abolition of the unsanitary private slaughter-house and the establishment instead of municipal abattoirs conducted under the supervision of specially trained veterinarians, in a manner similar to that now followed in establishments engaged in export, interstate or interprovincial trade.

In view of these facts there need be no very great difficulty in bringing about such a state of affairs as will effectually safeguard the majority of human beings from infection with bovine tuberculosis.

It is gratifying to note that the public conscience is being aroused on this question and that our medical brethren are becoming alive to the necessity of taking active measures with a view to improving existing conditions.

The wider problem of the complete eradication of bovine tuberculosis, which must be solved, if at all, by the veterinarian, is a very different and much more serious proposition.

Many of the most active minds in the profession the world over are engaged in the endeavor to find a sound, practical and effective method of controlling this terrible disease, but so far no plan reasonably applicable to conditions as they exist on this continent has been discovered.

Many attempts have been made to legislate bovine tuberculosis out of existence, but these have all, without exception, failed in their object, with the result that matters are practically at a standstill, for the simple reason that no one who has given the subject the study which it deserves knows exactly what to do or what to recommend.

This being the case, I deeply regret that the program of the present meeting contains but few items bearing on this great question.

America has always been in the forefront in the practical application of scientific knowledge, and it appears to me that this Association could be engaged in no better or nobler task than that of striving to blaze a trail in this hitherto uncharted region.

That the question is one of great economic importance goes without saying. Its magnitude is shown by the fact that out of 289,899 condemnations made in Canada last year under the Meat Inspection Act, 187,660 were on account of tuberculosis.

These figures, of course, include swine, but as the disease in these animals is almost invariably of bovine origin, it can readily be seen what an immense saving would follow the eradication of the disease among cattle.

Meanwhile, at the risk of being accused of repeating myself, I would again urge the desirability of conducting an energetic educational campaign among stock owners, with a view to the betterment of the conditions under which animals are only too often kept.

No campaign against bovine tuberculosis will ever succeed until owners recognize the fact that diseased herds do not pay, and that it is in their own interest to keep only healthy cattle.

One of the most important points to be inculcated in this movement is one which has hitherto been too much neglected, namely, the proper ventilation of stables.

The medical profession is putting us to shame in this regard, and the wonderful results which its members are obtaining from the open air treatment of tuberculous patients, much less capable of enduring such exposure than are ours, serve to emphasize the possibilities which we are neglecting.

Bovine tuberculosis is a disease of stables, being practically unknown in districts where cattle are constantly kept in the open air.

Without adopting this extreme course, which, in northern climates is not without its drawbacks, it is entirely possible to so ventilate ordinary stables as to render them infinitely more sanitary than many of them now are, without in any way interfering with the comfort or lessening the productiveness of their occupants.

Proper attention to this important question of stable ventilation will pave the way for a policy of eradication, and greatly add to the chances of success.

I cannot leave the subject of tuberculosis without alluding to the new method of intradermal testing with tuberculin introduced by Professor Moussu, of France. This method, with which we in Canada have been experimenting to some slight extent will, if found reliable, as I think it will be in the hands of careful and conscientious men, greatly simplify and facilitate the now somewhat trying and irksome task of applying the tuberculin test. I hope that before this meeting closes we will be given the benefit of the experience of those who have tried this new and simple method.

Rabies is another disease to which I am glad to see that this Association intends to devote, at its present meeting, a good deal of attention.

Here again the conditions which we have to face on this continent are such as to render the task of eradicating the disease much more serious and difficult than is the case in many other countries.

For many years past we, in Canada, have been almost entirely free from rabies, but during the last few years its spread in some districts has been rapid and serious.

So far as I can ascertain, the present outbreak was started by a little dog from the State of New York, which one day trotted across the suspension bridge at Queenston on the Niagara River, and, after biting a few Canadian dogs and some animals of other species, returned whence he came "unwept, unhonored and unsung."

The disease has since spread greatly over the western peninsula of Ontario, and has been, in one instance, carried as far as Alberta by means of a dog shipped from the first-named province.

The only good result which has followed its introduction has been a considerable diminution in the number of useless curs maintained in the towns and cities of the districts affected.

I will not at present dwell longer on the subject of veterinary sanitary science, but before leaving it, would point out that its rapid development has been the means of creating a new and most profitable field for the exercise of the energies of the younger members of our chosen profession.

There are now available in the public service many openings for the young veterinarian, and whether his tastes lie in the direction of scientific research, or in the more practical work of field and abattoir inspection, he can, if properly equipped edu-

cationally and otherwise, soon find congenial employment and fair remuneration.

The profession generally has also been greatly benefited in many different ways by the rapid development of veterinary sanitary science.

Not only have many "dark places been made light" and many "rough places made smooth," but the general average standing of the profession has been distinctly elevated and its importance to humanity and to the economic well being of the community demonstrated more clearly and completely than ever before.

Further, the appointments which have thus been created have been the means of largely increasing the membership of the profession, without inflicting the hardship of undue competition on those already engaged in ordinary practice.

Turning for a moment to the field of general practice, in which after all most of us are engaged, it is gratifying to note that although the city practitioner still continues to complain of the inroads made upon his income by the automobile and the trolley car, the services of his rural confrère are more in demand than ever, owing to the generally high and constantly increasing values of live stock of all kinds.

The higher education on which this Association, now endorsed in its attitude by our respective governments, has so long insisted, is having a marked effect in improving the conditions surrounding the veterinary practitioner.

He is now in a position to give his clients much better value in return for their fees than ever before.

Looking back over the last thirty years, many, many instances recur to me in which, had I been possessed of our present-day knowledge of pathological conditions and modern methods of treatment, I could have rendered infinitely more effective service and saved the lives of valuable animals which, these essentials being lacking, fell, in spite of hard and honest effort, victims to professional ignorance.

We must not, however, while paying due regard to the standard of our colleges and the education which they furnish, fail to remember the words of the famous Osler, which apply with immeasurably greater force to our profession than to his: "The whole art of medicine is observation; colleges can only start the man in the right direction," and his equally impressive

statement that "there can be no teaching of medicine without a patient—the patient is the best teacher."

These are weighty sayings and worthy of serious thought. There is, in my opinion, no more dangerous man than the newly-graduated veterinary surgeon, bursting with theory, but devoid of practical knowledge, furnished with letters of marque in the shape of a diploma; licensed in the words of these old documents to "sink, burn and destroy," he starts out on his path of devastation innocent of heart and purpose, but capable of doing incalculable harm to his patients as well as to his reputation and that of the profession to which he belongs.

They do these things better in France and some other countries.

The old system of pupilage has much to recommend it, and I cannot refrain from expressing myself as being strongly in favor of the provision insisted on by some few colleges even in this country, that their students must pass the time between sessions in active practice under the supervision of a qualified experienced practitioner.

This point has, I think, received altogether too little attention at the hands of those responsible for the education of the modern veterinarian of America, and in the general interests of the profession I feel it my duty to urge this phase of the training question upon your consideration.

Another matter which has been mentioned by previous presidents, but upon which I also have strong views, is that of the vanishing art of diagnosis.

In no other profession, of which I know anything, is the art of close observation mentioned by Osler so superlatively essential as it is in ours.

The successful veterinarian should be a veritable Sherlock Holmes. The practitioner of human medicine can, as a rule, cross-examine his patient at will, and the importance to him of this privilege is pretty clearly demonstrated by the helplessness which he too often displays when called upon to deal with infants or persons who have been rendered unconscious by injuries or other causes.

Our patients cannot tell us their sensations nor the history of any injuries which they may have received, and, this being the case, the veterinarian must become an expert in the art of interpreting the language of pain, as well as in noting the slight-

est departure from a normal condition, a qualification which presupposes an intimate acquaintance with the latter.

Too many of our young practitioners to-day depend almost entirely on the microscope, either in their own hands, or, more frequently, in those of some pathologist, who, with all his knowledge, may be devoid of practical experience or even of common sense.

While yielding to no man in my regard for the modern pathologist and in respect for his work, I feel that I cannot emphasize too strongly the desirability of every practitioner being able to reach a reasonably accurate diagnosis in most cases without microscopical aid.

In this connection I cannot refrain from mentioning an instance which occurred not long ago, when a modern comparative pathologist declared that it was absurd for us to imagine that we had Dourine in Canada, inasmuch as the specific trypanosome of the disease had not then been detected in any of the cases under observation.

On being asked by what means Dourine was recognized by ordinary observers one hundred years ago, his answer was scarcely as ready as his previous criticism.

There are many practitioners in this room who successfully and safely diagnosed glanders and tuberculosis long before the specific bacilli of these diseases were known or recognized.

The modern scientist or super-scientist is very apt to forget facts of this kind and to occasionally make a serious mistake by basing a negative opinion on a single smear or slide, which may happen to be free from the particular pathogenic germ for which he is looking.

It is well to maintain a reasonable balance between science and practice, with perhaps a friendly leaning to the latter, in recognition of the old and well-established principle that in the ordinary work of life the practical man may get on fairly well without theory while the theoretical man without practice is almost certain to come to grief.

As has been well said by one of our leading modern veterinarians, "Bacteriology is in its infancy—it counts its experts by tens, but its pretenders by hundreds. Hardly a disease exists in which some imaginative person has not discovered a specific causal organism, and the guileless practitioner accepts their statements as though picking out a bacillus was as easy as sorting out papers from a basket. There is only one safe rule in

bacteriology—never to believe any new discovery until it has been verified by other workers, and not even then unless the corroborating bacteriologist is a member of a school or clique opposed to that of the original discoverer."

Our late lamented mentor, Dr. Roscoe R. Bell, some years ago reproduced from the same author as that from which the above quotation is taken, namely, Mr. William Hunting, F. R. C. V. S., of London, who has perhaps done as much as any other man in the last three or four decades to maintain the dignity and augment the prestige of the veterinary profession in the English-speaking world, the following words of wisdom:

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations he adds to the knowledge of his profession and assists by his facts in building up a solid edifice of pathological science."

These sayings should be taken seriously to heart by every veterinary practitioner.

In following the principle therein enunciated many experiences of but trifling value may be reported, but on the other hand, its neglect may lead to the loss of much information of inestimable value.

It is a matter for deep regret that the dates of the International Veterinary Congress, to be held at The Hague, fall so close to those of this meeting. Had this not been the case, I am satisfied that not only would many of our own members, now absent, have been with us, but that several of the leading lights of the profession in Britain and other European countries would also have honored us with their presence.

The work of our profession in America is, year by year, deservedly commanding to a greater degree the respectful attention of veterinarians in other parts of the world, and many of those whom I have met have expressed a strong desire to attend at least one of the meetings of this Association.

It is a common saying among our members that they never attend one of these meetings without feeling strengthened, refreshed and better equipped for their professional labors.

Our program on this occasion shows a long list of papers on interesting subjects by many of our most able and talented members, with which are interspersed not a few contributions from distinguished visitors; in fact, the time at our disposal will hardly suffice for the proper assimilation of the mass of mental pabulum which we are expected to absorb.

As I stated last year at Philadelphia, the time has, in my opinion, now arrived when it will be found profitable to divide the program into sections, so that each member may elect to listen to such papers as deal with the special lines of professional work in which he is most interested.

I trust that the Executive Committee will consider this matter, and in the event of the Association, as a body, approving of such a change, take the necessary steps to bring it about before the date of our next annual meeting arrives.

I cannot close without expressing my sincere and heartfelt appreciation of the work of the various officers, as well as of the several committees with whom I have been associated during the past year. The devotion and energy of our capable secretary, the promptitude and reliability of our treasurer, and the painstaking work of the Publishing Committee, which has resulted in the production of what is perhaps the finest report yet issued, are worthy of special mention and high commendation.

In conclusion, I can only express the hope that our forty-sixth annual meeting, held as it is in the great metropolis of the Middle West, whose very name has come to stand for energy and enthusiasm, and where our professional brethren have long enjoyed well-deserved recognition, will, as there is now every indication of its doing, surpass in point of interest, as in number of those in attendance, all previous gatherings, and that this association will continue to prosper until, with every reputable veterinarian on the continent enrolled under its banner, it reaps the rightful reward of its unselfish and public spirited labors and becomes the actual governing body of the profession in America.

## THE ATTENDANCE.

The registration bureau, which the great numbers in attendance and the different times of arrival have made it necessary to substitute for the old custom of calling the roll, indicates the following male attendance from the different states, Canada and the Philippines, visitors included.

ALABAMA—C. A. Cary, Auburn.

CALIFORNIA—R. A. Archibald, Oakland; P. H. Browning, San Jose; Percy W. Goodwin, Los Gatos; C. M. Haring, Berkeley; F. H. McNair, Berkeley.

CANADA—S. Hadwen, Ottawa; C. J. Johannes, Harriston; D. McCuaig, McAdam Jct., N. B.; C. D. McGilvray, Winnipeg,

Man.; W. C. McGuire, Cornwall; W. E. Martin, Winnipeg, Man.; J. A. Stevenson, Gretna, Man.; F. Torrance, Winnipeg, Man.; J. G. Rutherford, Ottawa, Ont.; Thos. Thracker, Renfrew, Ont.; E. A. A. Grange, Toronto.

COLORADO—Geo. H. Glover, Fort Collins; A. J. Savage, Colorado Springs; M. J. Woodliffe, Denver; Mark White, Denver; M. J. Woodliffe, Denver.

CONNECTICUT—H. H. Newcomb, Bridgeport; Oscar Schreck, New Haven.

DISTRICT OF COLUMBIA—B. H. Bowl, Washington; R. M. Farrington, Washington; A. D. Melvin, Washington; John R. Mohler, Washington.

FLORIDA—F. A. Overbay, Bartow.

GEORGIA—T. E. Jago, Athens, Ga.

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### NEW MEMBERS.

As a result of seven seatings of the Executive Committee during the several days of the Chicago meeting, 185 applications for membership were acted upon, of which number (including several reinstatements) 177 were recommended to the association for active membership, 5 rejected and 3 applicants permitted to withdraw their applications, the final result being 177 names added to the roll of active members in the association as follows:

Thomas E. Anderson, M.D.C. (Chicago Vet. College, 1907), Bedford, Iowa; Claude L. Ashbrook, M.D.C., V.S. (Ontario Vet. College and Chicago Vet. College, 1907 and 1908), Chicago, Ill.; William F. Brownell, M.D.C. (Chicago Vet. College, 1894), Little York, Ill.; O. F. Butterfield, M.D.C. (Chicago Vet. College, 1896), Libertyville, Ill.; Oren Alfred

Christianson, M.D.V. (McKillip Vet. College, 1907), Luxembourg, Wis.; R. J. Coffeen, M.D.C. (Chicago Vet. College, 1906), Winton, Minn.; Elmer E. Cunningham, V.S. (Ontario Vet. College, 1887), Valparaiso, Ind.; Gerald Pigott Dillon, D.V.S. (McGill University, 1889), New Westminster, B. C.; A. Martin Eichelberger, Ph.B., D.V.M. (Cincinnati Vet. College, 1909), Blanchester, Ohio; Charles Frazier, B.S., M.D.V. (McKillip Vet. College, 1902), Chicago, Ill.; Jesse Andrew Grau, D.V.S. (San Francisco Vet. College, 1908), Salivas, Cal.; F. M. Gray, M.D.V. (McKillip Vet. College, 1904), Battle Creek, Sask., Canada; William C. Hamilton, D.V.M. (Cincinnati Vet. College, 1909), Cincinnati, Ohio; Thomas Batin Harries, V.S., M.D.V., V.M.D. (Ontario Vet. College, 1904; McKillip, 1906), Calgary, Alberta, Canada; Bentley F. Hudson, M.D.V. (McKillip Vet. College, 1906), Moweaquea, Ill.; George Prentice Isbell, M.D.V. (McKillip Vet. College, 1908), Hopkinsville, Ky.; David Smeaton Jaffray, Jr., M.D.C. (Chicago Vet. College, 1899), Chicago, Ill.; Charles W. Johnson, D.V.S. (Chicago Vet. College, 1887), Morgan Park, Ill.; Robert William Keepers, D.V.S. (Kansas City Vet. College, 1906), Chester, Pa.; Harry Ellis Kingman (Kansas City Vet. College, 1909), Fort Collins, Col.; Paul O. Koto, M.D.C. (Chicago Vet. College, 1895), Forest City, Ia.; Andrew J. Kyle, M.D.C. (Chicago Vet. College, 1907), Cozad, Neb.; Elmer L. Lull, D.V.S. (Kansas City Vet. College, 1909), Gothenberg, Neb.; Leo B. Michael, M.D.C. (Chicago Vet. College, 1903), Collinsville, Ill.; Charles J. Mulvey (McGill University, 1894), Mooers, Clinton Co., N. Y.; Daniel Edward Murphy, M.D.C. (Chicago Vet. College, 1908), Prairie du Sac, Wis.; I. E. Newsom, B.S., D.V.S. (Kansas City Vet. College, 1909), Fort Collins, Col.; Charles B. Parker, M.D.C. (Chicago Vet. College, 1906), Monticello, Minn.; Charles Pearson, D.V.S. (Kansas City Vet. College, 1903), Amarillo, Tex.; Edwin James Peck, M.D.V. (McKillip Vet. College, 1906), Great Falls, Mont.; George P. Rebold, D.V.M. (Cincinnati Vet. College, 1909), Cincinnati, Ohio; William R. Richards, M.D.C. (Chicago Vet. College, 1908), Chicago, Ill.; Robert Riddell, V.S. (Ontario Vet. College, 1880), Calgary, Alberta, Canada; Harry W. Rike, V.S. (Ontario Vet. College, 1889), Burlingame, Cal.; W. Boyd Robinson, D.V.M. (Cincinnati Vet. College, 1909), Mt. Sterling, Ky.; Arthur J. Savage, D.V.S. (Detroit College of Medicine, Vet. Dept., 1895, and Kansas City Vet. College, 1909), Colorado Springs, Col.;

Chas. H. Schultz, B.S., D.V.M., V.M.D. (McKillip Vet. College and Vet. Dept., University of Penn., 1905 and 1909), Tacoma, Wash.; Thomas A. Sigler, V.S. (Indiana Vet. College, 1902), Greencastle, Ind.; Samuel L. Stewart, D.V.S. (Kansas City Vet. College, 1907), Kansas City, Mo.; Walter A. Sullivan (McKillip Vet. College, 1907), Raleigh, N. C.; H. E. Talbot, M.D.C. (Chicago Vet. College, 1895), Des Moines, Ia.; Joshua P. Thompson (Ontario Vet. College, 1891), Billings, Mont.; Alex Charles Topmiller, M.D.V. (McKillip Vet. College, 1907), Murfreesboro, Tenn.; Seymour Jay Walkley, M.D.V. (McKillip Vet. College, 1907), Milwaukee, Wis.; F. C. Willett, M.D.V. (McKillip Vet. College, 1901), Henry, Ill.; John G. Wills, D.V.M. (New York State Vet. College, 1906), Chateaugay, N. Y.; George W. Wolaver, Jr., M.D.C. (Chicago Vet. College, 1905), Edinburg, Ill.; F. R. Youree, M.D.V. (McKillip Vet. College, 1909), Nashville, Tenn.; James L. Barber, M.D.V. (McKillip Vet. College, 1909), Tyndall, S. Dak.; George William Chapman, M.D.C. (Chicago Vet. College, 1908), Webster, S. Dak.; Joseph C. Christianson, M.D.C. (Chicago Vet. College, 1909), Mt. Vernon, S. Dak.; Harold M. Halverson, M.D.C. (Chicago Vet. College, 1907), Yankton, S. Dak.; Thomas Henry Hicks, M.D.C. (Chicago Vet. College, 1894), Milbank, S. Dak.; Nelson J. Mayer, M.D.C. (Chicago Vet. College, 1907), Mitchell, S. Dak.; John Thomas McGilvray, M.D.C. (Chicago Vet. College, 1907), Sioux Falls, S. Dak.; Foster Harris Pierce, D.V.S. (Kansas City Vet. College, 1909), Faulkton, S. Dak.; Thomas Horner Ruth, B.S., M.D.C. (Chicago Vet. College, 1906), De Smet, S. Dak.; Ernest Downing Sadler, M.D.C. (Chicago Vet. College, 1909), Wagner, S. Dak.; Charles Douglas Tuttle, M.D.C. (Chicago Vet. College, 1902), Canton, S. Dak.; Charles William Barrett, D.V.S. (N. Y. A. Vet. College, 1905), Pasadena, Cal.; David E. Buckingham, V.M.D. (Univ. of Penn., 1893), Washington, D. C.; Alonzo Henry Cheney, V.M.D. (Univ. of Penn., 1904), Miles City, Mont.; Roy A. Drake, D.V.S. (Ohio Veterinary College, 1896), Topaz, Cal.; Fred N. Elwell, D.V.M. (Iowa State College, 1902), Rapid City, S. Dak.; John Hutchinson, D.V.S. (Kansas City Vet. College, 1908), Salt Lake City, Utah; Thomas E. Maloney, V.S. (N. Y. College of Vet. Surgeons, 1889), Fall River, Mass.; Edward Albert Manwell, V. S. (N. Y. College of Vet. Surgeons, 1895), Des Plaines, Ill.; Raymond C. Reed, Ph.B., D.V.M. (N. Y. State Vet. College, 1901), Pine Plains, N. Y.; Walter Clar

Stewart, D.V.M. (Iowa State College, 1907), West Union, Ia.; John Marshall Young, D.V.S. (New York-American Vet. College, 1903), El Paso, Tex.; Orisimus G. Atherton (Kansas City Vet. College, 1893), Chicago, Ill.; Robert I. Bernath, V.S. (Ohio State University, 1907), Bluffton, Ohio; Louis P. Cook, D.V.S. (Ohio Vet. College, 1895), Cincinnati, Ohio; Louis N. Larsen, M.D.C. (Chicago Vet. College, 1905), Whitehall, Wis.; W. S. Lowe, D.V.S. (Kansas City Vet. College, 1907), Phoenix, Ariz.; James Lewis, B.S., M.D.C. (Chicago Vet. College, 1903) (no residence given); John Fred Miller, D.V.S. (N. Y. State Vet. College, 1906), Albany, N. Y.; John W. Nicholson, M.D.V. (McKillip Vet. College, 1909), Morris, Ill.; Henry Graham Patterson (Kansas City Vet. College, 1899), New Orleans, La.; Thomas C. Paulsen (Chicago Vet. College, 1908), Baton Rouge, La.; Carl J. Scott, D.V.M. (Vet. Dept., Iowa State College, Rapid City, S. Dak.; George W. Stubbs, V.S. (Indiana Vet. College, 1900), Opelousas, La.; Frank R. Smythe, D.V.M. (Cincinnati Vet. College, 1909), Batavia, Ohio; Charles P. Sneed, D.V.S. (Kansas City Vet. College, 1909), Kansas City, Kan.; William H. Wallace, D.V.S. (Kansas City Vet. College, 1909), Kiowa, Kan.; Joseph F. Talbert, M.D.C. (Chicago Vet. College, 1903), Kansas City, Kan.; Jesse P. F. Smith, A.B., D.V.S. (Kansas City Vet. College, 1906), Kansas City, Kan.; Abram N. Rebet, D.V.S. (Kansas City Vet. College, 1901), Kansas City, Kan.; Thomas A. Jones, D.V.S. (Kansas City Vet. College, 1904), Kansas City, Kan.; Charles B. Clement, D.V.S. (Kansas City Vet. College, 1905), Rosedale, Kan.; Earl C. Cannon, LL.B., D.V.S. (Kansas City Vet. College, 1909), Live-Stock Exchange, Kansas City, Kan.; D. M. Campbell, D.V.S. (Kansas City Vet. College, 1907), Topeka, Kan.; Conrad L. Nilson, D.V.S. (Kansas City Vet. College, 1906), St. Joseph, Mo.; Alfred L. Bailey, D.V.S. (Kansas City Vet. College, 1904), Kansas City, Mo.; George E. Butin, D.V.S. (Kansas City Vet. College, 1905), Kansas City, Mo.; John D. Cooper, D.V.S. (Kansas City Vet. College, 1898), Kansas City, Mo.; W. Ross Cooper, D.V.M. (Iowa State College, Vet. Dept., 1892), Kansas City, Mo.; William Wallace Eagle, D.V.S. (Kansas City Vet. College, 1906), Kansas City, Mo.; Ernest T. Faulder, D.V.S. (Kansas City Vet. College, 1908), Kansas City, Mo.; Harry D. Freeman, D.V.S. (Kansas City Vet. College, 1908), Kansas City, Mo.; Pleasant J. Huffman, D.V.S. (Kansas City Vet. College, 1909), Kansas City, Mo.; Philip Ritter,

D.V.S. (Kansas City Vet. College, 1908), Kansas City, Mo.; Edward H. Schaefer, M.D., D.V.S. (Kansas City Vet. College, 1906), Kansas City, Mo.; John Lewis Zeiler, D.V.S. (Kansas City Vet. College, 1909), Clayton, Mo.; Hartwell Robbins, D.V.S. (Kansas City Vet. College, 1906), Chicago, Ill.; F. W. B. Achin, M.D.C. (Chicago Vet. College, 1907), Kenosha, Wis.; John P. Anderson, V.S. (Ontario Vet. College, 1888), Rochester, Minn.; Aaron V. Johnson, V.M.D. (Indiana Vet. College, 1907), New Albany, Ind.; Clarence Sylvester Bucker, M.D.V., D.V.S. (McKillip and Grand Rapids, 1906 and 1908), Archbold, Ohio; Chester A. McKillip, M.D.V. (McKillip Vet. College, 1909), Chicago, Ill.; George Ditewig, D.V.S. (Chicago Vet. College, 1891), Peoria, Ill.; Cassius Way, D.V.M. (N. Y. State Vet. College, 1907), Harvard, Ill.; James Smellie, M.D.C. (Chicago Vet. College, 1897), Eureka, Ill.; Matthew Edward Gleason, M.D.C. (Chicago Vet. College, 1906), Gibson City, Ill.; Thomas O. Shearburn, M.D.C. (Chicago Vet. College, 1906), Walnut, Ill.; Alexander M. McKay, V.S. (Ontario Vet. College, 1893), Calgary, Alberta, Canada; J. E. Threadgill, B.S., D.V.M. (Vet. Dept., Ala. Poly. Institute, 1909), Troy, Ala.; J. Edward Rowe, D.V.S. (American Vet. College, 1893), Summit, N. J.; Alpheus Lloyd Tyner, D.V.M. (Indiana Vet. College, 1909), Sharpsville, Ind.; Albert G. Gieske (Chicago Vet. College, 1906), Barrington, Ill.; H. E. Torgersen, M.D.C. (Chicago Vet. College, 1908), Park Ridge, Ill.; Albert C. Worms, M.D.C. (Chicago Vet. College, 1896), Chicago, Ill.; Ray Davison Rice, M.D.C. (Chicago Vet. College, 1909), Maple Rapids, Mich.; Charles W. Boyd, V.M.D. (Univ. of Penn., 1895), Pittsburgh, Pa.; Harry L. Keene, M.D.C. (Chicago Vet. College, 1906), Shabbona, Ill.; Fred J. Leith, M.D.V., M.D.C. (McKillip Vet. College and Chicago Vet. College, 1893 and 1898), Chicago, Ill.; S. H. Miller, M.D.V. (McKillip Vet. College, 1902), Rock Island, Ill.; Frederick B. Hadley, D.V.M. (Ohio State University, 1907), Columbus, Ohio; Arthur J. Legner, M.D.C. (Chicago Vet. College, 1909), Leland, Ill.; John L. Hoyhnan, M.D.C. (Chicago Vet. College, 1903), Franklin, Neb.; Ernest A. White, V.M.D. (Univ. of Penn., 1897), New Orleans, La.; William Francis Jones, D.V.M. (Vet. Dept., Ohio State University, 1896), McCook, Neb.; Leonard Collins, D.V.S. (Kansas City Vet. College, 1908), Stanton, Neb.; Walter Morrow Haag, M.D.V. (McKillip Vet. College, 1903), New Orleans, La.; H. L. Schuh, D.V.M. (Ohio State University,

1906), Marietta, Ohio; Albert J. Noonan, M.D.V. (McKillip Vet. College, 1908), Bernard, Ia.; L. J. Leppla, M.D.V. (McKillip Vet. College, 1905), Chicago, Ill.; R. C. Calkins, M.D.C. (Chicago Vet. College, 1908), Fairbury, Ill.; G. J. Behrens, M.D.C. (Chicago Vet. College, 1908), Evansville, Ind.; Fred Foster, M.R.C.V.S. (Glasgow R.C.V. Surg., 1881), Jolo Jolo, P. I.; William J. Francoise, M.D.V. (McKillip Vet. College, 1908), Kalamazoo, Mich.; Henry F. Eckert, M.D.C. (Chicago Vet. College, 1896), Markeson, Wis.; Adrian V. Hall, V.M.D. (Pennsylvania, 1906), Washington, D. C.; Fred M. Hayes, D.V.M. (Kansas State Agr. College, 1908), Manhattan, Kan.; Alexander Morrison Mair, V.S., M.D.V. (Ontario, 1904), Streator, Ill.; Chas. I. Thwing, M.D.C. (Chicago Vet. College, 1895), Terre Haute, Ind.; J. M. Kaiser (Chicago Vet. College, 1903), Chicago, Ill.; John Keppel, M.D.V. (McKillip Vet. College, 1902), Kansas City, Kan.; Daniel G. Marks, M.D.C. (Chicago Vet. College, 1907), Chicago, Ill.; Albert M. Meade, D.V.S. (Kansas City Vet. College, 1909), Kansas City, Kan.; Hubert Otis Moore, D.V.M. (Indiana Vet. College, 1907), Rapid City, S. Dak.; Samuel Valentine Ramsey, D.V.S. (Chicago Vet. College, 1889), Terre Haute, Ind.; James Ragan, M.D.V. (McKillip, 1900), Morris, Ill.; Ernest J. Walsh, V.S. (Ontario Vet. College, 1891), Willow City, N. Dak.; Scott Wisner, B.S., D.V.S. (Colorado Agr. College, Vet. Dept., 1909), Ft. Collins, Col.; Leslie A. Wright (Ontario Vet. College, 1890), Columus, Wis.; Thos. J. Foster, D.V.M. (Ohio Vet. College, 1909), Monticello, Ill.; Paul C. Hurley, D.V.M. (Cincinnati Vet. College, 1908), Cincinnati, Ohio; Arthur Calvin Foos (Ontario Vet. College, 1887), Hazleton, Pa.; John F. Halloran, M.D.C. (Chicago Vet. College, 1902), Stapleton, N. Y.; Rufus S. Heer, M.D.C. (Chicago Vet. College, 1891), Plattenville, Wis.; Chauncey Depew Maulfair, M.D.C. (Chicago Vet. College, 1902), McNabb, Ill.; William J. Rook, V.S. (Ontario Vet. College, 1894), Holland, Mich.; Max W. Brach, V.S. (Indiana Vet. College, 1900), Hale's Corners, Wis.; Jay P. West, M.D.V. (McKillip Vet. College, 1907), Madison, Wis.; Walter A. Wolcott, M.D.C. (Chicago Vet. College, 1904), Plymouth, Wis.; David Bert Clerk, M.D.C. (Chicago Vet. College, 1903), Janesville, Wis.; Fred W. Phips (Ontario Vet. College), Mineral Point, Wis.; Edward B. Rader, M.D.V. (McKillip Vet. College, 1908), Clinton Junction, Wis.; George M. Funkhouser, M.D.V. (McKillip Vet. College, 1908), Lafayette, Ind.; Frank B. Jackson, D.V.M. (Cincinnati Vet. College, 1906), Camden,

Ohio; Harry Calvin Crawford, V.M.D. (Univ. of Penn., 1909), Manchester, N. H.; Charles R. Treadway, D.V.S. (Kansas City Vet. College, 1905), Kansas City, Mo.; Charles Saunders Breed, M.D.V. (Harvard University School of Veterinary Medicine, 1887), Omaha, Neb. (Reinstatement.)

### HONORARY MEMBER.

In consideration of the position taken by the Hon. W. D. Hoard, of Ft. Atkinson, Wis., on the question of tuberculosis, and his early endorsement of the tuberculin test for the control and suppression of that disease, and his splendid efforts in aiding a solution of this great world-wide problem, which merits the approbation of the entire country and the recognition of the American Veterinary Medical Association, he was unanimously elected to honorary membership.

### CABLEGRAMS.

"Paris.

"J. G. Rutherford, President American Veterinary Medical Association, Chicago, Ill.

"Warmest greetings and friendliest congratulations to all.

"LIAUTARD."

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"Chicago, September 7, 1909.

"A. Liautard, Paris, France.

"Sincere congratulations. We rejoice in your added and well-earned honors.

"AMERICAN VETERINARY MEDICAL ASSOCIATION."

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"Paris, September 9, 1909.

"Veterinary Association, Palmer House, Chicago.

"Thanks for congratulations.

"LIAUTARD."

### SECRETARY'S REPORT.

Secretary Lyman's report, aside from a brief mention of the receipts, disbursements and present income of the association for the fiscal year ending September, 1909, was devoted principally to a brief resume of matters that had come to his attention which he believed might lend an influence in the future welfare of the association. This report will be given in detail in the published proceedings of the association.

### TREASURER'S REPORT.

Treasurer White had a detailed report, printed and bound, much in the form of a bank report, on the front cover page of which the title, "The American Veterinary Medical Association, Treasurer's Report, Forty-sixth Annual Meeting, Chicago, Illinois, September 7, 8, 9 and 10, 1909," appeared. Within the book, under the heading "Report of Treasurer," is listed, first, the receipts, which, with the balance in bank at the time of last year's report, aggregate $4,524.37. A detailed list of disbursements followed, aggregating $2,491.28, leaving a balance in bank of $2,033.09. In the centre of the last page, facing the back cover page, the following puts the finishing touch to Dr. White's official report:

*To the Finance Committee of the American Veterinary Medical Association:*

Gentlemen: This certifies that Geo. R. White, Treasurer, has on deposit with the State Trust Company, to the credit of the American Veterinary Medical Association, two thousand thirty-three and nine one-hundredths dollars ($2,033.09).

EDGAR MAGNESS, *President.*

Nashville, Tenn., September 2, 1909.

## REPORTS OF COMMITTEES.

### FINANCE COMMITTEE.

Chicago, September 9, 1909.

An examination of the Secretary's books to September 3, 1909, shows:

| | | |
|---|---|---|
| Cash balance on hand..... | $145.15 | |
| Cash collected since Sept. 3, 1909..... | 882.10 | |
| Total amount in the hands of Secretary | | $1,027.25 |

The books of the Treasurer show the following receipts and disbursements for the past year:

| | | |
|---|---|---|
| Total receipts | $4,524.37 | |
| Disbursements | 2,491.28 | |
| Balance on hand | | $2,033.09 |
| Total amount to the credit of the A. V. M. A. now in the hands of the Secretary and Treasurer | | $3,060.34 |

Respectfully submitted,

O. E. DYSON, Chairman.
CHAS. E. COTTON.
C. J. MARSHALL.

COMMITTEE ON DISEASES.

*Mr. President and Members of the Association:*

The Committee on Diseases has, after a careful consideration of its duties, decided as in previous years, that it could render the association greater service by supplementing a short general report by individual papers. The reasons for each member presenting a separate communication for which he alone is responsible are obvious. In a previous report they have been enumerated and consequently need not be reviewed here. In compliance with a resolution of the association passed at its last meeting, the individual papers deal for the greater part with different phases of one disease.

The disease which seemed most worthy of consideration by the association at this time was rabies. As this infection, because of its wide prevalence, great economic and sanitary importance, and easy elimination, should not exist in this country, and, further, because its control will be accomplished largely through the efforts of veterinarians and officials having in charge the control of animal diseases, it seems highly important that the veterinarians here assembled should not only be familiar with it but also that they should take decisive steps towards its eradication.

The titles of the papers which supplement this general report are:*

"Diagnosis of Rabies, Its Spread and Methods of Control in New York State." V. A. Moore, Ithaca, N. Y.

"The Nature, Cause and Prevalence of Rabies." J. R. Mohler, Washington, D. C.

"Rabies in Canada." Charles H. Higgins, Ottawa.

Owing to the absence of Dr. Higgins, Dr. Mohler was asked to read a paper on the transmission of rabies through milk and meat, and the prevention of the disease from a Federal standpoint.

"Infectious Equine Anæmia." A. T. Kinsley, Kansas City, Mo.

"Infectious Diseases from the Veterinary Inspector's Point of View." L. E. Day, Chicago, Ill.

A number of matters pertaining to the presence of infectious diseases of animals and their control have attracted the attention of the veterinary profession during the last year. The International Congress on Tuberculosis brought out many important observations and experiences in the control of cattle tuberculosis. The paper by A. D. Melvin, Chief of the Bureau of Animal Industry, on the extent of this disease in the cattle of this country, furnishes material for our most careful consideration. In view of the great economic and sanitary significance of this disease to the live-stock industry and the many factors that must of necessity be accounted with in formulating successful methods for its eradication, this committee respectfully recommends for the consideration of the association the appointment of a special committee to report at our next meeting on the most effective and feasible methods or systems to be recommended to both officials and cattle owners for eliminating this fearful scourge of cattle. Whatever opinions may be entertained regarding its transmission to man, bovine tuberculosis is fundamentally a disease of cattle and the responsibility of its treatment and control should and does rest upon the veterinary profession. During the year there has been legislation in a few states relative to the control of the use of tuberculin. It is too early to speak of the value of these laws in checking the spread of tuberculosis.

The appearance for the third time in this country of the foot-and-mouth disease and the discovery of the source of the

* Published under head of "Original Articles."

infection through imported vaccine is a matter worthy of attention. No less important, however, was the demonstration of the efficiency of the State and Federal authorities in checking its spread and promptly eradicating it from the country. The effective work in eliminating this accidentally introduced disease suggests the possible ability of the veterinary profession in conjunction with public officials to devise ways and means by which those affections which have become more widespread, such as rabies, glanders, tuberculosis, and hog cholera, could also be exterminated.

The attention of the veterinary profession in America has again been called to the granular venereal disease, or infectious vaginal catarrh in cattle. Although Raebiger described this disease very accurately and pointed out its treatment in the April issue of the AMERICAN VETERINARY REVIEW in 1907, it did not seem to attract the notice of the veterinarians to a disease which for the moment is receiving considerable attention in Europe, especially Switzerland. In the fall of 1908, Dr. J. G. Wills, of Chateaugay, N. Y., found a severe vaginitis in two herds of cows. In these herds there were both abortion and sterility. He reported the condition to Dr. W. L. Williams at the New York State Veterinary College. Dr. Williams visited the place with Dr. Wills and identified the disease as that described by European writers as granular vaginitis. The significance of this affection in the production of abortion and sterility is not satisfactorily determined. European veterinarians who have studied the disease are not agreed on this point. The interesting discoveries and results of experimental work by Sir John McFadyean and Dr. Stewart Stockman, of the Departmental Committee appointed by the British Board of Agriculture and Fisheries, on infectious abortion, are very significant and must not be overlooked in the interpretation of the effect of this recently observed vaginitis. The disease is under investigation, and we hope that in due time reliable data may be obtained regarding its actual importance in this country. It is recommended that all members of the association who are engaged in cattle practice will carefully study this granular vaginitis, especially in its relation to abortion, sterility and milk production.

During this past winter attention was attracted to a disease of sheep in Montana and Wyoming which, on account of the lesions occurring on the lips and legs of the affected animals, led sheep men and others to suspect that the affection was foot-

and-mouth disease, which at that time was prevailing in certain Eastern states. An investigation of this disease showed it to be a form of necrobacillosis which was characterized by the formation of ulcers and crusts on the lips and legs and known locally as lip-and-leg ulceration. There is also a venereal form of the infection known as ulcerated sheath and ulcerated vulva, which exhibits similar lesions on the sheath, vulva, under-side of tail and perineal region, but likewise to the necrosis bacillus. This disease, which has been smouldering in that section of the West for several years, seems to have broken out with greatly increased vigor during the past winter, requiring the adoption of rigid sanitary measures by the Federal and State authorities.

The disease in horses known as infectious anæmia has received considerable attention during the last year. As this affection has but recently come into recognition as an infectious malady, one member of the committee will present in an individual paper recently discovered facts concerning it.

The infectious diseases of poultry have received considerable attention during the last year. While heretofore the maladies of fowls have not been considered to any great extent by veterinarians, the time has come when it seems to be the duty of the veterinary profession to endeavor to master and to learn how to control the infectious diseases of the feathered tribes. They are causing annually the loss of millions of dollars' worth of fowls, and, generally speaking, this falls upon those least able to bear it. It is recommended, therefore, that veterinarians, for the purpose of prevention, give more attention to such scourges of poultry as avian tuberculosis, chicken cholera, fowl typhoid, diphtheria or roup, infectious entero-hepatitis and the various parasitisms. When the veterinary profession learns how to control these pests it will add millions to the value of its service to the country.

In addition to the recommendations already made, the committee urges somewhat emphatically the great importance of increased interest in the study, treatment and control of the diseases of dairy cattle.

Respectfully submitted,

V. A. Moore, Chairman.
J. R. Mohler,
C. H. Higgins,
A. T. Kinsley,
L. E. Day.

## COMMITTEE ON LEGISLATION.

*American Veterinary Medical Association:*

The Committee on Legislation begs leave to submit the following report for the year 1908-9:

During the year the committee has had considerable correspondence with veterinarians throughout the country relative to pure food legislation and have been able to furnish copies of laws and regulations governing the traffic in meat and milk. All over America there seems to be an awakening to the subject of the milk supply of cities, and, fortunately, our profession is prepared to meet this demand and is furnishing inspectors of milk and dairy farms for many cities.

Concerning army veterinary legislation, your committee can only report the usual result—failure.

During the past regular session of Congress no legislation of importance on military matters was presented. Your committee was given to understand early in the session that nothing would be expected of Congress during the term, and accordingly did not attempt any organized work, but merely kept up a healthy interest by the Military Committee.

The same bills to increase the efficiency of the veterinary service of the army were introduced in both Senate and House as were introduced at an earlier session. The disability clause was not included in the bill as introduced, inasmuch as it was not in the War Department bill, and while such a clause was approved by the former Secretary of War, it will be necessary to have it added to the bill while it is in the committee. During the special (tariff) session, the same bill was introduced in the House as was presented to the Military Committee in the Sixtieth Congress (1907-8), H. R. 11790. In the Senate, Senator Warren introduced a new bill, S. 1692—Sixty-first Congress, First Session. It is worded slightly different from the original War Department bill, but practically covers every point in it.

Your committee has written to many of the army veterinarians to get their views regarding this last bill. One or two have responded, but those most interested have not as yet been heard from. Ten years is still considered the minimum service by which an army veterinarian is given any consideration regarding retirement before an examination board on account of wounds, disabilities, or diseases contracted in the line of duty, whereby he would be retired should he be unable to pass the physical examination satisfactorily.

Inasmuch as the only army veterinarian your committee is aware of who is physically disqualified has less than ten years' service, this bill seems to be an unjust one, and will be so considered unless advised by the association to the contrary. Unless the disability amendment favored by a former Secretary of War is added to these veterinary bills, your committee will antagonize them during the next session of Congress in December.

Many of the army veterinarians are very lukewarm regarding these bills as they have great hope of a bill now being prepared by the general staff for the reorganization of the army.

Your committee believes that it will be a long time before Congress will again consider any general reorganization of the army, hence those veterinarians who are building their hopes on such legislation must have plenty of patience. It seems better to urge the adoption of the present bills if properly amended, as they will then contain clauses covering retirement for age and disability, and these seem to be the paramount features at present.

Very respectfully,

J. P. TURNER,

Chairman, Legislative Committee.

60th Congress, 1st Session.

H. R. 11790.

IN THE HOUSE OF REPRESENTATIVES.

January 6, 1908.

Mr. Hull, of Iowa, introduced the following bill, which was referred to the Committee on Military Affairs and ordered to be printed.

A BILL

To increase the efficiency of the veterinary service of the army.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That the President be, and he is hereby, authorized to appoint veterinarians in the army, not exceeding two for each regiment of cavalry and one for each battalion of field artillery.

Sec. 2. That, except as hereinafter provided in sections five and six, no person shall be eligible for appointment as a veterinarian who is not a citizen of the United States, unmarried, between twenty-one and twenty-seven years of age, and a grad-

uate of a veterinary college of good standing. Nor, except as hereinafter provided in sections five and six, shall any person be appointed until he shall have passed a satisfactory examination under such regulations as may be established by the President as to habits, moral character, mental and physical ability, education, professional qualifications, and general fitness for the service.

Sec. 3. That, except as hereinafter provided in sections five, six, and seven, each of the veterinarians appointed under this act shall have the pay and allowances of a second lieutenant, mounted: *Provided,* That after ten years' service as veterinarians each shall have the pay and allowances of a first lieutenant, mounted: *Provided further,* That, except as hereinafter provided in sections five, six, and seven, this increase of pay and allowances shall not accrue until the veteriarian has passed a satisfactory examination as to professional, moral, and physical qualifications, under such regulations as shall be established by the President.

Sec. 4. That the veterinarians appointed under this act shall be on the same footing as commissioned officers of the army as to tenure of office, retirement, pensions, and increase of pay, and in all respects shall be governed by the Rules and Articles of War as are commissioned officers of the army.

Sec. 5. That veterinarians now in the service who have served as veterinarians honorably and faithfully not less than fifteen years shall be first eligible for appointment under this act and may be appointed without examination: *Provided,* That if any veterinarians falling within the description of this section shall have reached the age of sixty-four years before the date of the approval of this act the President may, and he is hereby authorized to, appoint and immediately retire them.

Sec. 6. That veterinarians now in the service who have served as veterinarians less than fifteen years shall be next eligible for appointment, subject to examination, as provided by this act, and no subsequent examination shall be required for those so appointed who shall have served as veterinarians not less than ten years at date of appointment.

Sec. 7. That veterinarians now in the service who shall be appointed under this act shall be entitled to credit for all honorable and faithful prior service in the army as veterinarians in determining their status under the provisions of sections three, four, five, and six of this act.

Sec. 8. That all veterinarians now in the service who shall not be appointed under the provisions of this act shall be discharged from the army, by the Secretary of War, with three months' pay.

Sec. 9. That all laws or parts of laws in conflict with the provisions of this act be, and are hereby, repealed.

61st Congress, 1st Session.

S. 1692.

IN THE SENATE OF THE UNITED STATES.
April 15, 1909.

Mr. Warren introduced the following bill, which was read twice and referred to the Committee on Military Affairs.

## A BILL*

To increase the efficiency of the veterinary service of the army.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That hereafter the President shall have authority to appoint veterinarians in the army, not exceeding two for each regiment of cavalry, and one for each battalion of field artillery, and all veterinarians so appointed shall be on the same footing as that of commissioned officers of the army in respect to tenure of appointment, retirement, pensions, increase of pay, and subjection to the rules and articles for the government of the armies of the United States, but, except as hereinafter provided, no person shall be appointed a veterinarian in the army unless he is a citizen of the United States, unmarried, not under twenty-one nor over twenty-seven years of age, a graduate of a veterinary college of good standing, and shall have passed satisfactorily an examination to be prescribed by the President: *Provided further,* That veterinarians now in the army who have served honorably and faithfully as such not less than fifteen years shall be the first persons eligible to appointment under the provisions of this act and may be appointed without regard to any of the restrictions thereof, and if any such veterinarians now in service shall have reached the age of sixty-four years before the approval of this act the President may appoint them veterinarians and imme-

* *This bill was printed in September issue of* REVIEW (*Army Vet. Dept.*) *with comment by Schwarzkopf.*

diately place them on the retired list with the retired pay of a first lieutenant, mounted: *Provided further,* That veterinarians now in the army who have served honorably and faithfully as such less than fifteen years shall be the next persons eligible for appointment under the provisions of this act, and may be appointed without regard to any of the restrictions thereof except the restriction as to examination; but no subsequent examination shall be required for any veterinarian now in the army who shall be appointed under the provisions of this act and who shall have served as such veterinarian for ten years or more at the date of his appointment, and any such veterinarian who shall have served honorably and faithfully as such for ten years or more at the date of his examination for appointment under the provisions of this act, and shall be found on such examination to be disqualified for active service by reason of wounds or other disability incurred in service and in the line of duty, shall be placed on the retired list with the retired pay of a first lieutenant, mounted: *Provided further,* That of the veterinarians who shall be appointed under the provisions of this act, those who are now veterinarians in the army and have served as such not less than ten years, and those who hereafter, on completing ten years of service as veterinarians in the army, shall pass a satisfactory examination to be prescribed by the President, shall have the pay and allowances of first lieutenants, mounted, and all other veterinarians on the active list of the army shall have the pay and allowances of second lieutenants, mounted: *Provided further,* That hereafter all veterinarians who shall be appointed under the provisions of this act shall, in determining their status and rights under this act or any other law, be entitled to credit for all honorable prior service rendered by them as veterinarians or veterinary surgeons in the army, and all veterinarians now in the army who shall not be appointed under the provisions of this act shall be discharged by the Secretary of War with three months' pay.

### COMMITTEE ON NECROLOGY.

*Whereas,* In the death of Dr. Sidney L. Hunter on February 27, 1909, the profession has suffered a great loss; since he was among our list of workers in the advancement of the profession. He graduated from the Ontario Veterinary College in 1887, and later from the Kansas City Veterinary College, and at the time of his death had been a member of the faculty of the above-

named college for sixteen years. Owing to his grand work for a long time in the army service school at Fort Leavenworth, Kansas, the profession in the army owes to him a debt of gratitude second to none. He was a man that our profession could ill afford to lose, being stricken in the height of professional ambition. He was buried with both military and masonic honors.

*Resolved*, That this Association extend to the bereaved family of the deceased a copy of this resolution and that it be inscribed upon our records.

*Whereas*, In the death of David J. Dixon, who died July 26, in Hoboken, N. J., this Association lost a member of the Honor Roll, a graduate of the American Veterinary College, an earnest, trustworthy practitioner of the profession. He was buried with masonic honors.

*Resolved*, That this Association extend to the bereaved family of the deceased a copy of this resolution and it be inscribed upon our records.

J. F. WINCHESTER, Chairman.
WILLIAM DOUGHERTY.
SESCO STEWART.
R. W. ELLIS.
J. L. ROBERTSON.

COMMITTEE ON RESOLUTIONS

Report of the Committee on Resolutions was submitted to the general meeting and adopted.

*The International Congress on Tuberculosis, Held in Washington, D. C., 1908.*

*Whereas*, The International Congress on Tuberculosis, which was held in Washington, D. C., September 21 to October 3, 1908, had, for the first time in such international congresses on the disease, a separate section on Tuberculosis in Animals and Its Relations to Man, and

*Whereas*, That section of the Congress was attended by a large body of the members of this Association, by agriculturalists, national and state sanitary officers, celebrated members of the human medical profession, and distinguished foreigners from many lands, whereby a feeling of good will was engendered, together with a deepened sense of the benefits of the veterinary profession to mankind, therefore be it

*Resolved,* That we heartily thank the officers of the National Association for the Study and Prevention of Tuberculosis, who added the separate section in the International Congress referred to; that we most sincerely express the hope that there be similar separate sections on Tuberculosis in Animals and Its Relations to Man in all future International Congresses on this disease; that a copy of these resolutions be transmitted to Dr. Farrand, Secretary of the National Association for the Study and Prevention of Tuberculosis.

### *Rabies.*

*Whereas,* Rabies is spreading with alarming rapidity in this country, be it

*Resolved,* That it is the sense of this Association that to eradicate this infectious disease all dogs when running at large should be muzzled, and that all dogs appearing off the premises of their owners without such muzzle properly adjusted should be destroyed.

### *Dairy, Meat and Milk Inspection.*

*Whereas,* Municipal dairy, milk and meat inspection is being extended with encouraging rapidity, be it

*Resolved,* That this Association considers this matter one of the most important before the people to-day, in the interests of the public health, especially the babies, and be it further

*Resolved,* That this Association urge its members and the veterinary profession generally to promote the education of the public to the appreciation of the advantages of dairy, milk and meat inspection.

### *Bureau of Animal Industry.*

*Whereas,* The Bureau of Animal Industry, by the invaluable assistance rendered to the several states in which contagious foot and mouth disease recently occurred, has promptly stamped out this highly contagious disease, therefore,

*Be it Resolved,* That this Association hereby endorses its action in connection therewith, and

*Be it further resolved,* That this Association approves and commends the efforts of the Bureau of Animal Industry in the control and eradication of other contagious and infectious diseases of the live stock of the United States.

*Army Veterinary Service.*

*Whereas,* The present army veterinary service is in many respects unsatisfactory;

*Therefore, be it resolved,* That this Association will, upon the introduction in Congress of an army veterinary bill, give it our united support, provided that suitable disability amendment be added, which amendment will appear in the AMERICAN VETERINARY REVIEW, and every member will make personal effort in its behalf through his senator and representative.

A. H. BAKER, Chairman.
J. V. NEWTON.
G. W. DUNPHY.

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ELECTION OF OFFICERS.

The election of officers resulted as follows:

President—A. D. Melvin, Washington, D. C.

Vice-Presidents—E. A. A. Grange, Toronto, Canada; John H. McNeil, Columbus, O.; George H. Glover, Fort Collins, Colo.; James Robertson, Chicago, Ill., and A. T. Kinsley, Kansas City, Mo.

Secretary—R. P. Lyman, 1336 East Fifteenth street, Kansas City, Mo.

Treasurer—Geo. R. White, Nashville, Tenn.

President-elect Melvin being unavoidably absent and time pressing, President Rutherford waived the formal ceremony of installing the officers and declared them installed.

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PAPERS AND DISCUSSIONS.

At a preliminary meeting (Monday, September 6, 1909, at 2 p. m.) of the Association of College Faculties and Examining Boards, a paper by Dr. Albert T. Kinsley, of Kansas City, Mo., on "Night Instruction,"* one on "Matriculation Requirements for Veterinary Colleges,"* by Dr. George H. Glover, of Fort Collins, Colo., and another on "Equipment of Veterinary Colleges,"* by Dr. A. R. Ward, of Berkeley, California, were presented and brought out a hearty discussion of the several subjects treated in them.

* Will be published in a subsequent issue of the REVIEW.

The first paper presented at the regular meeting, Tuesday, September 7, was "Diagnosis of Rabies, its Spread and Methods of Control in New York State," by Dr. Veranus A. Moore, Ithaca, N. Y.

This was followed by "The Nature, Cure and Prevalence of Rabies," by Dr. J. R. Mohler, Washington, D. C.; "Equine Pernicious Anæmia," by Dr. A. T. Kinsley, Kansas City, Mo., and "Infectious Diseases from the Meat Inspector's Point of View," by Dr. L. Enos Day, Chicago, Ill.; these four excellent papers being a part of the report of the Committee on Diseases, were all discussed after that report had been submitted, and the several papers presented. The subject of each paper was of so much importance, that a lengthy and instructive discussion followed.

The first paper on the morning of September 8 was "Texas Fever and Its Eradication," by Prof. N. Kaumanns (Imperial German Commissioner for Agriculture to the United States), Chicago, Ill., which was freely discussed. Dr. Maximilian Herzog (M.D.), of the Chicago Veterinary College, presented a paper on "Trypanosomes and Diseases Caused by Them." "A Fatal Anæmic Disease Among Horses" was then presented by Dr. Winfred B. Mack, University of Nevada, Reno.

A rather unique paper entitled "Diphtheria of Animals and Man" was read by Dr. C. C. Lyford, Minneapolis, Minn. This was followed by "Pneumonia and its Treatment," by Dr. Mark White, Denver, Colo. "Nervous Influence in Cause and Cure of Disease," by Prof. E. A. A. Grange, Principal of the Ontario Veterinary College, at Toronto, Canada, was received with a good deal of enthusiasm and opened an animated discussion. "Experience with Bier's Hyperæmic Treatment," by Dr. H. Jensen, Kansas City, Mo., was a subject that interested the practitioners, and brought forth an expression of opinion as to its efficiency from a goodly number. The practitioners were in for another treat from Dr. George H. Berns, Brooklyn, N. Y., who followed Dr. Jensen with a paper entitled "Subcartilaginous Abcess of the Foot," in which Dr. Berns gave the clinical history of the first case leading up to the diagnosis of this condition, which was most interesting. This paper will be published in a subsequent issue of the REVIEW. The next subject, "Autogenic Vaccination as an Adjunct to the Operative Treatment of Quittor, Fistula and Other Suppurative Conditions," by Dr. R. A. Archibald, Oakland, California, while its title suggests laboratory

work, was, again, a paper for practitioners and presented from a practitioner's standpoint, Dr. Archibald believing that a certain amount of laboratory work properly belongs to the practitioner. This method seems to have gained many adherents since Dr. Archibald presented a similar paper a year ago at Philadelphia.

Dr. F. Torrence, Winnipeg, Manitoba, then presented a most excellent paper on " Internal Secretions," which closed the work for the day.

In the evening a joint session was held of the American Veterinary Medical Association and the Chicago Medical Society, the meeting being devoted to the consideration of " Milk and Milk Hygiene." This session was opened by W. A. Evans, M.D., Commissioner of Health, of Chicago, who presented an extremely interesting and instructive paper on " Milk in Relation to Health." Dr. Evans was followed by Dr. M. H. Reynolds, Professor of Veterinary Medicine, University of Minnesota, St. Paul, on " Milk, the Producer, the Consumer and the Veterinary Profession," a splended paper, presented in an interesting and entertaining manner.

Hon. W. D. Hoard (ex-Governor of Wisconsin, and editor of *Hoard's Dairyman*), Ft. Atkinson, Wis., was then introduced, and gave an extemporaneous address on " The Relation of the Agriculturist and Dairyman to Milk Hygiene." In his address ex-Governor Hoard proved himself to be not only a past master in the art of dairying, but also in the art of entertaining, and those who missed his address missed a rare treat. Prof. Russel of the Agricultural College at Madison, Wis., who was the last of the speakers at the joint session, also spoke extemporaneously and brought out some important points.

A carefully prepared paper entitled " What the Agriculturist and Veterinarian Mean to the Health and Prosperity of the Nation," by Dr. Walter G. Hollingworth brought the Thursday morning session to a close, discussion having to be dispensed with in order that the members might join the ladies on the palatial lake steamer United States for a cruise on Lake Michigan. While out on the lake, Dr. G. H. Roberts, of the Indiana Veterinary College, presented his paper on "The Practical Side of Tuberculin Testing of Dairy Cattle."

The program for the fourth day of the regular sessions, September 10, announced a clinic at 9 a. m. at the Chicago Veterinary College, but there still being papers to be read and important business to be transacted, President Rutherford called a meet-

ing at that hour in the large lecture hall of the college, where Dr. George H. Glover presented his excellent paper on "The Score Card in Dairy Regulation," and Dr. C. M. Haring presented a carefully prepared paper on "Bovine Tuberculosis Investigations," the trend of the paper indicating that the investigations had been careful and painstaking.

## THE CLINIC.

The Surgical Clinic was held at the Chicago Veterinary College, 2537 State street, on Friday, September 10, 1909. Owing to the necessity of completing the regular program, the clinic was not commenced until the afternoon, and as a large number of subjects had been provided by the local committee, less than half of them were disposed of. The following is a brief summary of the case, diagnosticians and operators:

First—Black mare, 6 years old. Diagnosis, Stringhalt, due to a toe crack, Drs. Wight and Joy. Recommendations, hoof dissection of first side of the crack, antiseptic treatment, application of the clamp. Operation by Dr. Joy, assisted by Dr. Black. Anæsthesia, cocainization of the plantar nerves by Dr. Jewell. Restraint, operating table by Dr. Kyle and assistants.

Second—Bay gelding, 10 years old. Diagnosis, Volar-flexion, due to contraction of the flexor tendons; primary disease, tendonitis. Recommendations, Metacarpa Tenotomy. It was advised to correct the deformity by section of the perforans only. Operation by Dr. Geo. H. Berns, deformity was corrected by division of both tendons; assisted by Dr. Black. Anæsthesia, none. Restraint, operating table, Dr. Kyle and assistants.

Third—Bay mare, aged. Operation, Oophorectomy, by Dr. H. Fulstow, assisted by Dr. J. H. Jefferson. Restraint, Gleason's Happo-Lasso, by Dr. Geo. R. White. Anæsthesia, none.

Fourth—Mare, 6 years old. Diagnosis, pole evil; an old chronic case. Operation, resection of the neck ligament, by Dr. C. H. Jewell. Anæsthesia, chloroform. Restraint, operating table, by Dr. Kyle and assistants.

Fifth—Black mare. Operation, Oophorectomy, by Dr. H. Fulstow and assistants. Anæsthesia, none. Restraint, standing position with a twitch; duration, two minutes.

Sixth—Black horse, 6 years old. Operation, Fistula of the Withers, by Dr. Geo. R. White, in the standing position.

Seventh—Black mare. Diagnosis, Velar-flexion, due to

purulent synovitis of the navicular sheath. Operation by Dr. D. W. Cochran; assistants, Drs. T. J. Smith and W. J. McKinney.

St. Bernard dog, 7 years old. Diagnosis, Hypertrophic Goitre. Diagnosis by Dr. C. H. White. Operation, ablation of the left lobe, by Dr. J. H. Blattenburg. Anæsthesia, ether, by Dr. J. H. Keefauver; assistant, Dr. J. J. Joy. Normal salt solution was injected subcutaneously to prevent syncope; duration, 45 minutes. Patient has entirely recovered.

Painless destruction of the horse, by Dr. E. L. Quitman, intravenous injection of potassium of cyanide.

Bay stallion, 10 years old. Diagnosis, Roarer from paralysis of the left recurrent laryngeal nerve. Operation, resection of a part of the vocal cord, by Dr. M. H. McKillip, assisted by Dr. J. F. Leath and G. B. McKillip. Anæsthesia, none. Restraint, Klotz harness, by Drs. White and Klotz. The head was restrained by McKillip's head restraining halter. Incision through Crico-Thyroid Membrane and Adam's Apple.

Stallion, 6 years old. Diagnosis by Berns, Blattenburg, Stringer, Fair and Klotz. Anæsthesia, Oscheoscele, by Drs. Torgeson and Hensel. Chloral hydrate 2 oz. followed by chloroform. Operation, radical herniaotomy, by Drs. Blattenburg and Klotz. Osteo-Sarcoma of the illium; case presented by McKillip Veterinary College, where the pathological diagnosis was made.

Partial resection of the Arytenoid cartilage, by Dr. F. H. Anderson and assistants. Cuneaotomy by Dr. F. H. Anderson. Restraint in both of these cases by Dr. White. Recumbent position with Klotz's harness.

The clinic was managed by Dr. Geo. B. McKillip, chairman of the committee.

### PATHOLOGICAL EXHIBIT.

In a large upper room in the Chicago Veterinary College building at the rear of the main classroom, in addition to the great number of preserved pathological specimens, was an exhibition of fresh specimens, arranged around the entire room in shallow boxes about 2x4 feet in size, placed at a convenient height and angle for easy inspection. Among them were specimens of tuberculosis of the lungs, spleen, pertoneum, bladder, uterus, rectum, mammæ, retro-pharyngeal glands, and of a cross-section of the tibia and hock, actinomycosis of the lungs and of the head,

hog cholera of skin, bones, glands and kidneys; hydro-nephrosis of the kidney, peritonitis, angio-matosis of the liver, abnormal livers, abscess of liver, and echinorhincus gigas of intestines.

### THE BANQUET.

The annual banquet which was held on Thursday evening, September 9, in the "Gold Room" of the Congress Hotel, is something long to be remembered by those who had the good fortune of participating in it.

Three hundred people, ladies and gentlemen, attended it, and the contrast resulting from their costumes in that beautiful dining room, was a feast in itself. For the "Gold Room" is said to be not only the finest in this country, but to be without a peer, as a public dining hall, in the world. President Rutherford presented Dr. Sesco Stewart as toastmaster, who graced the position with credit to himself and to the association.

It is scarcely necessary to say that the repast was a most excellent one and the service elegant; at the close of which the following toasts were announced by the toastmaster, with a neat and fitting introduction to each of those that were to respond to them: "The United States of America," Dr. A. D. Melvin; "The Dominion of Canada," Dr. J. G. Rutherford; "The State of Illinois," Dr. W. J. Martin; "The City of Chicago," Dr. W. A. Evans; "Our Insular Possessions," Dr. G. E. Nesom; "Veterinary Associations," Dr. W. Horace Hoskins; "The Teacher," Dr. V. A. Moore; "The Army," Dr. C. H. Jewell; "The Veterinary Practitioner," Dr. Geo. H. Berns; "Veterinary Education," Dr. Geo. H. Glover; "The Ladies," Dr. Tait Butler.

The absolute fitness in the coupling of each toast to the one that was to respond to it must be apparent to everyone the moment they read them, and cause them to appreciate the pleasure and delight they imparted to their auditors. It lasted until about midnight.

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### NOTES OF THE A. V. M. A. MEETING.

The A. V. M. A. passed the thousand point in membership at Chicago.

Seven hundred and twenty-five were in attendance at the A. V. M. A. meeting in Chicago.

The A. V. M. A. honored itself in electing Ex-Governor Hoard, of Wisconsin, to honorary membership.

The question of sectioning the program was agitated again this year, and settled by empowering the president and secretary to do so in arranging the same.

Many members of the A. V. M. A. have acquired the habit of making trips either before or after the dates of the meeting, thereby adding to the length of their vacations.

The "Honor Roll" was augmented at the recent meeting by the names of Drs. F. S. Allen, H. W. Bath, George H. Berns, V. S. James, C. C. Lyford, E. C. Ross and A. G. Voght.

Members of the A. V. M. A. are hereby notified that any communications for Secretary Lyman should be addressed to him at No. 1336 East Fifteenth street, Kansas City, Mo.

In the spare moments, between sessions, the veterinarians sought recreation in the exhibition room above the meeting hall, where prominent drug, instrument and publishing houses had exhibits.

The veterinary departments of the state agricultural colleges of Colorado and Kansas and the Alabama Polytechnic Institute are to be added to the list of colleges whose graduates are eligible to membership in the A. V. M. A.

A recommendation from the Executive Committee, to the effect that no applications for membership shall be acted upon at the 1910 meeting if received later than the day preceding the meeting, and accepted by the association, will greatly facilitate the work of that hard-worked committee.

The members of the A. V. M. A. in attendance at the Chicago meeting are greatly indebted to the Abbott Alkaloidal Co., through their veterinary representative, Dr. H. F. Palmer, for a daily bulletin placed in their hands each morning, containing the complete registration by states up to 5.30 of the evening previous.

On Tuesday morning, September 7, the ladies, who were present at the Chicago meeting in great numbers, added to the beauty of the elegant meeting hall by their presence at the opening ceremonies. In the afternoon they were the guests of Mrs. McKillip at a theatre party, attending the Majestic Theatre. In the evening they met the gentlemen at a reception in the Palmer House.

Up to the time of adjournment at Chicago, no definite plans had been made in regard to a place of meeting for the 1910 convention, although several invitations were extended. Among

others, one from Dr. Torrence to come to Winnipeg, Manitoba; one from Dr. Archibald, to come to the Pacific Coast, and one from Dr. Newton, to come to Toledo, Ohio. There was also some talk of Denver and Indianapolis.

Among the recently added features of the Chicago Veterinary College is an "examination room," 20 by 75 feet, covered by a glass roof. This makes an excellent place in which to hold a clinic, to diagnose lameness, or examine horses for soundness, in stormy or extremely cold weather, when it could not be done in the open. To say nothing of the advantages of privacy at any time; in the rear of it is a large dissecting room.

Either a new method will have to be devised to expedite the counting of votes at election of officers to the A. V. M. A., or an entertainment committee appointed to engage the members' attention during the counting of the votes, as it cannot be assumed that such excellent entertainers will always be on hand when the votes are being counted as on that occasion at Chicago, when Pres. Rutherford, Profs. Grange, Hughes and others came to the rescue.

About four years ago the government of the United States recognized the ability and integrity of Dr. A. D. Melvin in making him its chief executive in the Animal Industry Bureau of the Department of Agriculture; and at the A. V. M. A. meeting at Chicago last month its members showed a like a recognition to Dr. Melvin in electing him its chief executive. These are honors of which any man may feel justly proud, as the former is the highest position held by a veterinarian in the Department of Agriculture of the United States, and the presidency of the American Veterinary Medical Association is the highest gift of the veterinary profession of America.

On Wednesday morning the ladies were taken by the local committee for an automobile ride, covering the Park System of Chicago, which is virtually a belt around the city, lunching at the Auditorium Hotel. In the afternoon they visited the Art Museum, and in the evening, when the men were attending the joint session of the A. V. M. A. and the Chicago Medical Society, they had a card party in the parlors of the Palmer House. On Thursday morning they visited the Post Office, the Board of Trade and other public buildings, and Marshall Field's department store, boarding steamship United States at 1 p. m. for a sail on Lake Michigan with the gentlemen. In the evening the ladies and gentlemen together attended a banquet in the "Gold Room"

of the Congress Hotel. This room, which is elegant beyond description, is said to be not only the finest in this country, but to be without a peer in the world as a public dining room.

President Rutherford read the following verses, which he had clipped from some Canadian paper, to the members of the association, while waiting for the votes on the election of officers to be counted, and then presented them to the AMERICAN VETERINARY REVIEW:

THERE'S ROOM FOR THE OLD HORSE YET.

Though the trolley goes buzzing along the highway
And under the blossoming trees,
And past the broad fields where the scent of the hay
Floats lazily out on the breeze;
Though it fills the red steed with suspicion and fear,
And causes the goslings to fret,
And zipps up and down through the once quiet town,
There is room for the old horse yet.

A thousand inventors are busy to-day
Building ships to be sailed in the air;
By to-morrow the eagle may flutter away
From the gay people soaring up there;
The chickens may squawk, seeing men as they flock
As high as the birds ever get,
But in spite of the things we may do with our wings
There is room for the old horse yet.

Though the automobile whizzes over the scene
That once was so peaceful and still,
Leaving dust in its wake and the scent of benzine
As it disappears over the hill;
Though its zipps and its jolts give alarm to the colts,
Let us not for a moment forget
That, in spite of man's need of excitement and speed,
There is room for the old horse yet.

Though the lightning express, with its rush and its roar,
Remains but a moment in sight;
Though the trip that took months in the wagons of yore
Is easily made in a night;
Though the engine's wild toot causes heifers to scoot,
And the country lies under a net
Made by long rows of steel for the steam-driven wheel,
There is room for the old horse yet.

## NEW YORK STATE VETERINARY MEDICAL SOCIETY.

At the twentieth annual meeting of the New York State Veterinary Medical Society held at the New York State Veterinary College, Ithaca, N. Y., August 25, 26 and 27, the registry showed 60 members and 33 visitors present. Among the visitors from other states whom we knew were Dr. J. Payne Lowe and two little daughters, of Passaic, N. J.; Dr. W. B. Mack, of Reno, Nevada; Dr. Charles H. Perry, of Worcester, Mass., and Dr. Benjamin D. Pierce, of Springfield, Mass.

President Ellis called the meeting to order at ten A. M., first introducing the Hon. Randolph Horton, Mayor of Ithaca, who welcomed the society to Ithaca in words as sincere as the manner of the honorable gentleman. In his remarks he reviewed the advancement of veterinary medicine from empiricism to a

profession that is looked upon to-day as a safeguard to the live stock industry as well as protecting human life and controlling communicable diseases transmissible to man. Mayor Horton was heartily applauded and President Ellis then introduced Dr. Law, who responded to the address of welcome with that indescribable grace characteristic of our old teacher.

Dr. Law's address was a scholarly one. It was also one of importance, and it will be filed with the proceedings of the society. The importance of this address can be realized when we note under the resolutions that it is the society's wish that a copy of this address be forwarded to the Secretary of Agriculture and the Secretary of State that they might directly have the information set forth in Dr. Law's address regarding the danger of importation of disease with hides, from which the duty was removed in the recent tariff bill.

At the close of Dr. Law's address the minutes were read and approved.

Following the reading of the minutes Dr. George Berns took the chair while President Ellis delivered his address, which was the cause of no little comment among the members throughout the meeting. The logic set forth in this address showed that the speaker was not treating his subjects at random, but step by step he compiled facts upon facts, from the beginning reviewing the work of the Legislative Committee and the veterinary practice act down through his timely remarks in the choosing of a Board of Veterinary Examiners, continuing his train of thought through the new Agricultural Laws, dilating particularly upon the new glanders law whereby an indemnity was provided in part payment to the owner of the glandered animals, if destroyed by the state, touching upon the advantages of the identification of tuberculous animals, and last, but not least, connecting the good work of the Commissioner of Agriculture with the veterinary profession in stamping out so rapidly and effectively the invasion of foot and mouth disease in this country. In closing, Dr. Ellis made an appeal to the society for prompt methods to relieve the profession of the empirics and imposters who are practicing veterinary medicine illegally throughout the state.

The Secretary then read his report for the year, reviewing the conditions affecting the veterinarians throughout the state and expressing a feeling that all conditions were much brighter than they had been the year previous when so much depression was felt, due to the financial condition of the country and the

advent of the automobile and restrictions placed upon the sporting men at tracks in this state. The Secretary reviewed the work done by the society in the way of preparing a veterinary directory which was presented to the members at this meeting. The closing of his report seemed to be very much in co-operation with the President's remarks regarding the necessity of a prosecuting committee and asked that the society set aside a certain sum for the weeding out of dishonorable and disreputable parasites who prey upon the veterinary profession and live stock owners of our state.

The regular order of business was then taken up and applications for membership were considered. The names of Doctors H. J. Milks, C. E. Gibbs, A. K. Dean, A. G. Hall, W. B. Smith, E. H. Nodyne, Christian H. Rohrer and John L. Leonard were presented and censors reporting favorably upon them, they were elected as members of the society.

The Treasurer's report was regularly approved.

The reading and discussion of papers was then taken up. The first paper was that of Dr. J. L. Wilder, Akron, N. Y., entitled "Experiences with Foot and Mouth Disease." Dr. Wilder cited the characteristic symptoms of this disease, but owing to the limited number of veterinarians who had had any experience with this malady, the discussion necessarily was not extensive.

"Normal Temperature of Cows" was the title of the next paper given by Dr. R. C. Reed, of Pine Plains, N. Y. This paper seemed to be the red flag for the majority of the members present, and it was animatedly discussed by Doctors Hollingworth, Gill, DeVine, Morris, Baker, Switzer, Kelly, Axtell and others.

Dr. D. H. Udall, of the New York State Veterinary College, next read a paper on "Light and Ventilation," which was particularly interesting and discussed by many who were interested in sanitary scientific questions.

The Society next had the pleasure of listening to some very interesting remarks by Dr. W. J. Taylor, of the New York State Veterinary College, on the disease affecting sheep, known as Cœnurus Cerebralis, commonly called Gid.

The meeting then adjourned until evening, when at 8 p. m. an illustrated and instructive lecture on the development of the dairy cow was given by Professor H. H. Wing, President of the State Dairymen's Association. Professor Wing traced the origin of the dairy cow from the early historic times, pointing out

that all sub-divisions of breeds really came under one of the four following:

The two Channel Island breeds (Jersey and Guernsey).

Dutch and Ayrshires.

Professor Wing says that all cattle of a wild type are small and that the development of the dairy cow has been brought about by domestication. The advanced development of the dairy cow dates back about 100 years in the older countries. In this country it was not until after the Civil War that breeding or development of the dairy cow received much attention. The Channel Island cow still remains small in stature, due to the imperative restriction of cattle in the Channel Islands, and this also accounts for the lack of a mixture of blood in these islands. Professor Wing also stated that the Ayrshire cow was, so to speak, a composite cow, a product of man's ingenuity. He agreed with authorities that the Ayrshire cow was a particularly hardy one and in that way preferred in some rough countries. He also brought up a point, which was of particular interest, relative to the importation of the Jersey cow in this country, which was first brought here more as a pet animal, due to her size and color, than as a producer. The Holstein cow, he says, was imported to this country by a tourist who visited Holland and admired the black and white colorings of the animal and the green pastures. Professor Wing then compared our methods of dairying in this country with some of the older countries in an interesting and instructive manner.

At the close of Professor Wing's lecture all members and visitors of the society, including the ladies, were next ushered to College Hall, where a bench lunch was served and many specimens of interest examined.

## Second Day, Thursday, August 26.

The society re-assembled at 10 a. m. The first paper was that of Dr. W. B. Mack*, of Reno, Nevada. The doctor's paper was a carefully prepared one and full of data that was sure to furnish material and suggestions for the work of the bacteriologist, but owing to its scientific nature and the lack of advantages of investigation by other members, such as has been the good fortune of Dr. Mack, the discussion was confined mostly to investigators along the bacteriological lines.

* Will appear in the November issue of the Review.

Following Dr. Mack's paper, Dr. F. C. Grenside, of New York City, read a paper on the "Types of Horses." This paper, from the beginning to the end, appealed to the lover of the horse and particularly to the horseman. Dr. Grenside is an authority upon the types of horses and the proper equipments which go with them to please the eye and satisfy the fancy of those who appreciate a properly appointed turnout.

"Certified Milk" was the topic which Mrs. C. H. Cocke, of New York City, discussed, defining in a clear way the requirements necessary for the production and sale of certified milk, a question which is becoming more and more of interest to the sanitarium.

Dr. H. J. Milks, of Owego, N. Y., read a paper entitled "Cerebro-Spinal Meningitis in the Horse." Owing to the many duties of the Secretary at this time, this paper and its discussion was not heard in full. Therefore the Secretary regretfully makes apologies for such of it as should be recorded.

The next paper was that given by Dr. Claude D. Morris, of Binghamton, N. Y., entitled "Making Market Milk Under Veterinary Inspection." Dr. Morris sub-divided the classes of dairymen, reviewing carefully the conditions as they stand to-day in comparison with what they were a decade or two in the past, pointing out that the class of dairymen who are now in predominance are making good clean wholesome milk and are quite willing to co-operate with sensible and reasonable dairy inspection. Dr. Morris is quite at home in discussing the milk question.

The meeting adjourned to re-assemble at 2 p. m.

The first paper after lunch was one given by Dr. J. G. Wills, of Chateaugay, N. Y., entitled "Some Remarks on Venereal Disease in Cattle." Dr. Wills was the first one in this country to recognize some ailment of the vaginal tract which he thought was associated with abortion in some two herds in his locality, he calling into consultation Doctors Law and Williams, of Cornell, who later determined that the disease was the one spoken of by European writers and which is now receiving considerable attention in this country.

Dr. D. D. LeFevre, of Newark, N. Y., gave his experience with Echinacea, and from the evidence set forth by the doctor, Echinacea is one of the drugs he will always have on hand. In septic conditions, particularly, this drug has worked marvelously for the doctor and we surely will hear more of Echinacea in days to come.

Dr. W. G. Hollingworth followed Dr. LeFevre, and in his earnest, optimistic way pointed out to the veterinarian his important position in this world's doings, moralizing on honesty, integrity and duty. Such words of advice as were given by Dr. Hollingworth can well be taken from one who is not only an advocate, but a living example.

Dr. J. H. Taylor, of Henrietta, read a paper on "The Therapeutics of Eserine." This paper was a well written one and contained some good facts particularly for younger veterinarians, who would do well to study it line by line.

Owing to the lateness of the hour the meeting then adjourned to assemble again a 7 p. m. at the New Ithaca Hotel, where a banquet was laid. After the banquet a paper was read by Dr. J. F. DeVine, of Goshen, entitled "The Control and Extent of Rabies in New York State." This paper was discussed by Doctors Moore and Tegg and others. Dr. Moore gave some interesting history of the spread of rabies as he remembered it; also corroborated Dr. DeVine's remarks concerning the period of incubation and the experiment of feeding rabid virus to animals without producing the disease. He also spoke of the possibilities of animals going through a mild form of the disease and recovering without showing clinical symptoms, and stated that Dr. Boynton had found Negri bodies in a brain that had been kept in glycerine 368 days.

Following the close of this discussion the election of officers was then taken up.

The nomination for President was first in order. Dr. Berns nominated Dr. Hollingworth. Seconded by Dr. Fish. Nomination was closed and Dr. Hollingworth elected as President of the Society.

For Vice-president Dr. W. L. Baker nominated Dr. E. B. Ackerman. Dr. Berns seconded the nomination. Nomination was closed and Dr. Ackerman was elected.

For Secretary and Treasurer Dr. Berns nominated Dr. J. F. DeVine. This was seconded by Dr. Fish. Nomination closed and Dr. DeVine elected.

The next election was for a Board of Censors. The following gentlemen were elected:

Drs. Grenside, Berns, Reed, Tegg and Kelly.

The next in order was the election of ten members to present to the Board of Regents, five of which are to be appointed by the Regents as a State Board of Veterinary Examiners. The following gentlemen were elected:

Drs. Law, Grenside, Reed, Stone, Blair, Beebe, Huff, Fish, Burnett and George Knapp.

The selection of a place for the meeting of 1910 was next considered. Dr. V. A. Moore extended an invitation to Ithaca. Dr. Kelly cordially invited the Society to Albany. These two places being the only ones mentioned, the choice of place was put to a rising vote, 22 being in favor of Ithaca and 11 for Albany.

Dr. Hollingworth then suggested setting aside a sum for the entertainment committee. Doctors Baker, Burns and DeVine expressed the same opinion. Dr. Morris voted that a sum of $100.00 be set aside each year as a sinking fund for this purpose, which was carried.

Dr. Morris also introduced the following resolution, which was voted on and approved:

Whereas, Dr. James Law has called attention to the possible importation of serious infectious disease through the anticipated larger importation of raw hides as a result of the removal of the tariff on the same, therefore, be it

Resolved, That a copy of his discussions on this subject be transmitted to the Secretary of Agriculture and the Secretary of this State.

The hour being late the meeting was then adjourned until 9 o'clock next morning, when we re-convened at College Hall and listened to some very interesting remarks by Dr. Moore on "The Milk Supply of Copenhagen."

At the close of Dr. Moore's remarks, the Secretary requested that a certain sum be set aside for the prosecution of illegal practitioners. It was regularly moved and seconded that a sum of $250.00 be placed at the disposal of the Prosecuting Committee for that purpose.

Important resolutions were then acted upon which, in addition to others that had been acted upon at different times during the meeting, are herein given.

Whereas, Our attention has been called to the practice of our profession by unqualified men in our state, be it

Resolved, That a Prosecuting Committee of three be appointed, whose duties shall be to adopt such means as necessary to stop such practices.

Resolved, That a committee of five members of this Society be appointed and designated as a Dairy Committee, whose duties shall be to better the conditions of milk production in this state,

looking to clean milk. This committee having authority to represent the society on this subject.

Whereas, For the better protection of public health of this state, it is deemed essential that a system of meat inspection be established, therefore be it

Resolved, That this society support the Commissioner of Agriculture in his endeavor to establish an efficient state veterinary meat inspection service, and that our Legislative Committee be instructed to aid and support him.

Whereas, There is a demand for draft horses of a superior quality and,

Whereas, It will be profitable for the farmer to have the service of stallions of superior breed and quality distributed throughout our state, be it

Resolved, That our Legislative Committee be instructed to prepare and present to the Legislature a bill establishing such a stallion service. and be it further

Resolved, That we petition the Commissioner of Agriculture to use his office and influence to procure the passage of such a bill.

Whereas, Dr. S. H. Burnett went to Europe for the purpose of better informing himself of the methods of teaching gross pathology and,

Whereas, He has been so unfortunate as to contract a cold which has led to a protracted case of pleurisy which has compelled him to spend the greater part of his time in the hospital, be it

Resolved, That this society send him a cable expressing our regrets and wishing him a speedy recovery.

Whereas, The Honorable Raymond A. Pearson, Commissioner of Agriculture, has, through his unceasing and judicious efforts done so much for the advancement of animal industry for the better appreciation and utilization of a State Veterinary Sanitary Service, be it

Resolved, That we assure him of the high estimation that we place on what has been already accomplished in this line, and that we offer our earnest support in all such future departures affecting beneficially the animal industry and veterinary medicine in our state.

Resolution Committee—H. D. Gill, James Law.

The meeting was then adjourned to the Agricultural Department, where Professor Tuck graciously took charge of all

and pointed out to them the advancements along agricultural lines.

After our short and pleasant stay with Professor Tuck we then adjourned to the operating room, where the following clinical programme was enacted:

1. Abdominal hernia in colt, Dr. W. S. Eggleston.
2. Operation for roaring, Dr. J. N. Frost.
3. Operation for quittor, Dr. G. H. Berns.
4. Demonstration of venereal disease in cattle, Dr. J. G. Wills.
5. Demonstration of tuberculous udder in cow, Dr. W. J. Taylor.
6. Demonstration of "Gid" (cœnurus cerebralis) in sheep, Dr. W. J. Taylor.
7. Oophorectomy in mare, Dr. A. Findlay.
8. Firing ringbone, Dr. D. H. Udall.
9. Ringbone and navicular disease, Dr. D. H. Udall.
10. Operation for roaring, Drs. H. J. Milks and J. N. Frost.
11. Oral fistula, Dr. D. H. Udall.
12. Arthritis of the fetlock joint, Dr. D. H. Udall.
13. Post mortem of "Gid" sheep with later demonstration of the parasite *coenurus cerebralis,* Dr. W. J. Taylor.
14. Exhibition of dog afflicted with warts in the mouth and pharynx, Dr. W. B. Switzer.
15. Oophorectomy in the bitch, Dr. R. C. Reed.
16. Oophorectomy in the bitch, Dr. P. A. Fish.
17. Oophorectomy in the bitch, Dr. P. J. Axtel.
18. Oophorectomy in the cat, Dr. A. M. Seaman.
19. Deep peroneal neurectomy, Dr. A. H. Ide.
20. Stringhalt operation, Dr. G. R. Chase.

The following committees were subsequently appointed by President-elect Hollingworth:

Committee on Legislation—W. H. Kelly, D. J. Mangan, E. J. Nesbit.

Committee on Finance—W. R. Blair, H. D. Hanson, J. M. Currie.

Clean Milk Committee—R. C. Reed, Chairman; C. D. Morris, Secretary; H. D. Gill, A. G. Tegg, E. H. Nodyne.

Committee on Local Arrangements—V. A. Moore, P. A. Fish, G. S. Hopkins, J. N. Frost, S. H. Burnett.

Prosecuting Committee—F. C. Grenside, J. O. Moore, C. D. Morris.

Committee on Medical Jurisprudence—C. D. Morris, V. A. Moore, F. C. Grenside.

Delegate to the A. V. M. A.—G. H. Berns.

Committee on Necrology—V. A. Moore, R. W. Ellis, J. A. McCranck.

Committee on Resolutions—R. W. Ellis, G. H. Berns, P. A. Fish.

Committee on By-laws—W. L. Baker, G. H. Berns, W. L. Williams.

The weather was ideal during the entire time and the ladies who were fortunate enough to have taken advantage of the trip could be seen gathered in happy flocks at most any point as we passed to and fro to our hotels, one time riding in a large black wagon behind a handsome pair, another time on the hill top viewing beautiful landscapes, next perhaps enjoying the deep blue waters of Cayuga Lake.

Much credit is due to the kindness and painstaking of the Ithacan ladies who each year willingly prepare and carry out an interesting and delightful outing for the visiting ladies, let the number be large or small. Among those who graced our meeting with their presence this year were the following: Mrs. V. A. Moore, Miss Moore, Mrs. W. L. Williams, Miss Williams, Miss H. H. Haight, Mrs. F. C. Grenside, Mrs. A. Findlay, Mrs. C. H. Perry, Mrs. D. D. LeFevre, Mrs. W. B. Mack, Mrs. H. J. Milks, Mrs. G. R. Chase and Mrs. R. W. Ellis.

J. F. DeVine,
Secretary.

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## ORGANIZATION OF THE TENNESSEE VETERINARY MEDICAL ASSOCIATION.

At a meeting held in Nashville on June 8, 1909, the Tennessee Veterinary Medical Association was organized. A constitution and by-laws were adopted and the following officers were elected: President, Joseph Plaskett, D.V.S., Nashville; First Vice-President, J. C. Gill, M.D.V., Clarksville; Second Vice-President, W. L. Gates, V.S., Memphis; Secretary, A. C. Topmiller, M.D.V., Murfreesboro; Treasurer, J. H. McMahon, V.S., Columbia.

It was decided to admit to membership such non-graduates as were licensed by the Board of Veterinary Medical Examiners and who conducted themselves in an ethical and professional manner. It was hoped by this means to acquire sufficient strength to make the association a permanent one and also to enable its members to exercise enough political influence to procure such legislation as may be necessary for the best interests of the profession in the state of Tennessee.

The next meeting will be held in Murfreesboro, Tenn., on Thursday, November 18, 1909.

JOSEPH PLASKETT, President.

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## MEETING OF THE FACULTY SECTION OF THE ASSOCIATION OF VETERINARY FACULTIES AND EXAMINING BOARDS OF NORTH AMERICA.

This body convened in the Palmer House, September 6, 1909. After preliminaries were disposed of the following papers were given: "Night Instruction," Dr. A. T. Kinsley, Kansas City, Missouri; "Entrance Requirements," Dr. George H. Glover, Fort Collins, Colorado; "Equipment," Dr. A. R. Ward, Berkeley, Cal. The papers provoked considerable discussion both pro and con.

The following resolutions were adopted and referred to the general assembly:

Resolved, That the appointment of a Section or Committee of the faculty members has served to further the interest in veterinary education and should be continued;

Resolved, That it is the sense of the Section of College Faculties that methods of teaching veterinary subjects can profitably engage this section during the next session as a special topic for discussion.

Resolved, That it is the sense of the Section of College Faculties that, beginning with the college session, 1911-1912, the minimum educational requirement for admission to Veterinary Colleges should be four (4) High School units, or an equivalent examination, such examination to be outlined by the Association of Faculties.

The meeting was attended by representatives of fifteen different veterinary colleges. Many valuable suggestions were given out and those in attendance were certainly benefited by this meeting.

A. T. KINSLEY,
Secretary, pro tem.

## YORK COUNTY VETERINARY MEDICAL SOCIETY.

The quarterly meeting was held in the parlors of the National Hotel, York, September 7, where interesting discussions on contagious abortion of cows, tetanus, rabies, arthritis, enteritis, colic and other important subjects were indulged in. Dr. F. H. Hartenstein, of New Freedom, was elected to membership.

The meeting adjourned to meet in the same city on December 7, 1909.

E. S. BAUSTICKER, Secretary.

DR. WM. H. GRIBBLE, Washington C. H., Ohio, President of the Ohio Veterinary Medical Association, has recently recovered from blood poisoning resulting from a scratch on the arm. During convalescence he and his family tented in the Michigan woods, where his son Jean nearly depleted Otsego Lake of its fish population.

DR. GEO. W. WOLAVER, class of '05 of the Chicago Veterinary College, and Mrs. Belle Waters, both of Edinburg, Illinois, were united in marriage September 12, 1909, at the home of the bride. The doctor is a son of G. W. Wolaver and wife, of Edinburg, and lately elected member of the A. V. M. A.; and the bride is a daughter of the late Mr. and Mrs. Newton McGee, of Edinburg, and a highly respected and accomplished young lady. They left on succeeding Monday for a tour of the west, including Seattle, Southern Canada, Portland, Montana, Los Angeles, Frisco, Denver and other points of interest in the beautiful west; when in about five weeks they will return to their home, where the doctor has a large practice, modern hospital and beautiful residence on Washington street. His colleagues and brother members of A. V. M. A. join with his friends and relatives in wishing them happiness and success in their new adventure.

# VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table the data given is reported by many Secretaries as being of great value to their Associations, and it is to be regretted that some neglect to inform us of the dates and places of their meetings.

Secretaries are earnestly requested to see that their organizations are properly included in the following list :

| Name of Organization. | Date of Next Meeting. | Place of Meeting. | Name and Address Secretary. |
|---|---|---|---|
| Alumni Ass'n, N. Y.-A. V. C..... | ..... | 141 W. 54th St. | L. L. Glynn, N. Y. City. |
| American V. M. Ass'n..... | ..... | Chicago..... | R. P. Lyman, KansasCity, Mo. |
| Arkansas Veterinary Ass'n..... | ..... | ..... | Horace E. Rice, Little Rock. |
| Ass'n Médécale Veterinare Française "Laval"..... | 1st and 3d Thur. of each month | Lec. Room, Laval Un'y, Mon. | J. P. A. Houde, Montreal. |
| B. A. I. Vet. In. A., Chicago..... | 2d Fri. ea. mo... | Chicago..... | D. D. Tierney, Chicago, Ill. |
| California State V. M. Ass'n..... | ..... | San Francisco. | J. J. Hogarty, Oakland. |
| Central Canada V. Ass'n..... | ..... | Ottawa ..... | A. E. James, Ottawa. |
| Chicago Veterinary Society..... | 2d Tues. ea. mo. | Chicago ..... | J. M. Parks, Chicago. |
| Colorado State V. M. Ass'n..... | ..... | Denver ..... | M. J. Woodliffe, Denver. |
| Connecticut V. M. Ass'n..... | ..... | New Haven .. | B. K. Dow, Willimantic. |
| Genesee Valley V. M. Ass'n..... | 2d wk. in Jan.,'10. | Rochester..... | J. H. Taylor, Henrietta. |
| Georgia State V. M. A..... | Nov. 16-17, 1909. | Athens..... | P. F. Bahnsen, Americus. |
| Hamilton Co. (Ohio) V. A..... | ..... | ..... | Louis P. Cook, Cincinnati. |
| Illinois State V. M. Ass'n..... | ..... | Bloomington.. | J. H. Crawford, Harvard. |
| Illinois V. M. and Surg. A..... | Jan. and Aug... | Louisville..... | W. A. Swain, Mt. Pulaski. |
| Indiana Veterinary Association... | January, 1910 ... | Indianapolis.. | E. M. Bronson, Indianapolis. |
| Iowa Veterinary Ass'n..... .... | ..... | Ft. Dodge.... | H. C. Simpson, Denison. |
| Kansas State V. M. Ass'n..... | Jan. 4-5, 1910... | Manhattan.... | B. Rogers, Manhattan. |
| Kentucky V. M. Ass'n..... | ..... | Not decided .. | D. A. Piatt, Lexington. |
| Keystone V. M. Ass'n..... | Monthly..... | Philadelphia.. | S. Lockett, Glenolden. |
| Louisiana State V. M. Ass'n..... | ..... | ..... | E. P. Flower, Baton Rouge. |
| Maine Vet. Med. Ass'n ..... | Oct. 13, 1909.... | Waterville.... | A. Joly, Waterville. |
| Maryland State Vet. Society..... | ..... | Baltimore..... | H. H. Counselman, Sec'y. |
| Massachusetts Vet. Ass'n..... | Monthly..... | Boston..... | Wm. T. White, Newtonville. |
| Michigan State V. M. Ass'n..... | Jan. 25-26, 1910. | Saginaw ..... | Judson Black, Richmond. |
| Minnesota State V. M. Ass'n..... | ..... | Stillwater .... | G. Ed. Leech, Winona. |
| Mississippi State V. M. Ass'n.... | ..... | ..... | J. C. Robert, Agricultural Col. |
| Missouri Valley V. Ass'n..... | February, 1910.. | Kansas City.. | B. F. Kaupp, FortCollins, Colo. |
| Missouri Vet. Med. Ass'n ..... .... | ..... | St. Joseph.... | F. F. Brown, Kansas City. |
| Montana State V. M. A..... | ..... | Helena..... | W. S. Swank, Miles City. |
| Nebraska V. M. Ass'n..... | ..... | Grand Island. | H. Jensen, Weeping Water. |
| New York S. V. M. Soc'y..... | ..... | Ithaca ..... | J. F. De Vine, Goshen. |
| North Carolina V. M. Ass'n..... | ..... | Wilmington .. | Adam Fisher, Charlotte. |
| North Dakota V. M. Ass'n..... | Call of Sec'y.... | Fargo ..... | C. H. Martin, Valley City. |
| Ohio State V. M. Ass'n..... | ..... | Columbus..... | Sidney D. Myers, Wilmington |
| Ohio Soc. of Comparative Med.. | Annually ..... | Up'r Sandusky | F. F. Sheets, Van Wert, Ohio. |
| Oklahoma V. M. Ass'n..... | ..... | ..... | W. H. Martin, El Reno. |
| Ontario Vet. Ass'n..... | ..... | ..... | C. H. Sweetapple, Toronto. |
| Passaic Co. V. M. Ass'n..... | Call of Chair... | Paterson, N. J. | H. K. Berry, Paterson, N. J. |
| Pennsylvania State V. M. A..... | Sept..... | Philadelphia.. | F. H. Schneider, Philadelphia. |
| Philippine V. M. A..... | ..... | ..... | Chas. G. Thomson, Manila. |
| Province of Quebec V. M. A..... | ..... | Mon. and Que. | Gustave Boyer, Rigaud, P. Q. |
| Rhode Island V. M. Ass'n..... | Jan. and June.. | Providence ... | J. S. Pollard, Providence. |
| St. Louis Soc. of Vet. Inspectors. | 1st Wed. fol. the 2d Sun. ea. mo. | St. Louis..... | Wm. T. Conway, St. Louis, Mo. |
| Schuylkill Valley V. M. A..... | Dec. 15, 1909.... | Reading ..... | W. G. Huyett, Wernersville. |
| Soc. Vet. Alumni Univ. Penn..... | ..... | Philadelphia.. | B. T. Woodward, Wash'n, D. C. |
| South Dakota V. M. A..... | July, 1910..... | Sioux Falls... | J. A. Graham, Sioux Falls. |
| Southern Auxiliary of California State V. M. Ass'n..... | Jan. Apl. Jy. Oct. | Los Angeles.. | J. A. Edmonds, Los Angeles. |
| So. St. Joseph Ass'n of Vet. Insp.. | 4th Tues. ea. mo. | 407 Ill. Ave.... | H. R. Collins, So. St. Joseph. |
| Tennessee Vet. Med. Ass'n..... | Nov. 18, 1909... | Murfreesboro.. | A. C. Topmiller, Murfreesboro |
| Texas V. M. Ass'n..... | Call Exec. Com. | ..... | R. P. Marsteller, College Sta. |
| Twin City V. M. Ass'n..... | 2d Thu. ea. mo . | St. P.-Minneap | S. H. Ward, St. Paul, Minn. |
| Vermont Vet. Med. Ass'n ..... | Jan. 19th, 1910.. | White Riv. Jc. | F. W. Chamberlain, Burlington |
| Veterinary Ass'n of Alberta... .. | ..... | ..... | C. H. H. Sweetapple, For. Saskatchewan, Alta., Can. |
| Vet. Ass'n Dist. of Columbia..... | 3d Wed. ea. mo.. | 514—9th St., N. W..... | M. Page Smith, Wash., D. C. |
| Vet. Ass'n of Manitoba..... | Not stated..... | Winnipeg..... | F. Torrance, Winnipeg. |
| Vet. Med. Ass'n of N. J..... | Jan. 13, 1910 .... | Jersey City... | W. Herbert Lowe, Paterson. |
| V. M. Ass'n, New York City..... | 1st Wed. ea. mo. | 141 W. 54th St. | W. Reid Blair, N. Y. City. |
| Veterinary Practitioners' Club.... | Monthly..... | Jersey City ... | A. F. Mount, Jersey City. |
| Virginia State V. M. Ass'n ..... | ..... | Hampton ..... | W. G. Chrisman, Charlo'sv'le. |
| Washington State Col. V. M. A .. | 1st & 3d Fri. Eve. | Pullman..... | R. G. McAlister, Pullman. |
| Washington State V. M. A..... | ..... | Seattle..... | J. T. Seely, Seattle. |
| Western Penn. V. M. Ass'n..... | 1st Wed. ea. mo. | Pittsburgh.... | F. Weitzell, Allegheny. |
| Wisconsin Soc. Vet. Grad..... | ..... | Grand Rapids. | J. P. West, Madison. |
| York Co. (Pa.) V. M. A..... | Dec. 7, 1909.... | York, Pa..... | E. S. Bausticker, York, Pa. |

# PUBLISHERS' DEPARTMENT.

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MRS. M. C. MARSHALL, Williamstown, Mass., has every copy of the AMERICAN VETERINARY REVIEW since 1902, the numbers of her late husband, Dr. R. J. Marshall, and will dispose of them to anyone desiring back numbers. Address Mrs. Marshall direct, at above address.

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WE have been informed by MESSRS. H. PLANTEN & SON, "The Pioneer American Capsule House" of Brooklyn, N. Y., that they have completed the rebuilding of that part of their laboratory destroyed by the fire of May 14th exclusively devoted to the manufacture of their "Airless" Filled Capsules and Perloids.

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HAVING just received the little three-leaf folder on Air Cushion Pads, from the REVERE RUBBER COMPANY, we are reminded of the fact that Fall is rapidly approaching, and with the slightest frost on asphalt pavements horses cannot stand on steel shoes, and *must* be padded. The Air Cushion is an ideal pad.

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THE following from DR. JNO. WM. SPRANKLIN may interest someone:

Baltimore, June 3rd, 1909.

MR. J. S. TYREE.

DEAR SIR:—In using your excellent Compound known as "Tyree's Antiseptic Powder" I desire unsolicited to cite to you its efficiency in Gall of all kinds, Slothful Ulcers and generally as a dusting powder or a pollany. I beg you especially to note the result in two cases of Polypi of the Mouth, used here in an 8 per cent. solution as a wash. In case No. 1 I removed about half of Polypi surgically and prescribed above wash to be used three times a day until I returned, intending to re-operate the following day, was surprised and pleased upon my return to find no sign of Polypus, and mouth entirely healed and normal. In No. 2 case I used only the wash and in two days the results were the same as Case No. 1. In Stomatitis, Pharyngeal Troubles, Ointments for Scratches, Summer Surfeit, Sitfasts, and as a Dressing to Injuries nothing better can be used.

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THE SORBY VACCINE COMPANY, of Chicago, have secured page 13 (advertising department), upon which to arrange their interesting list of vaccines and other products.